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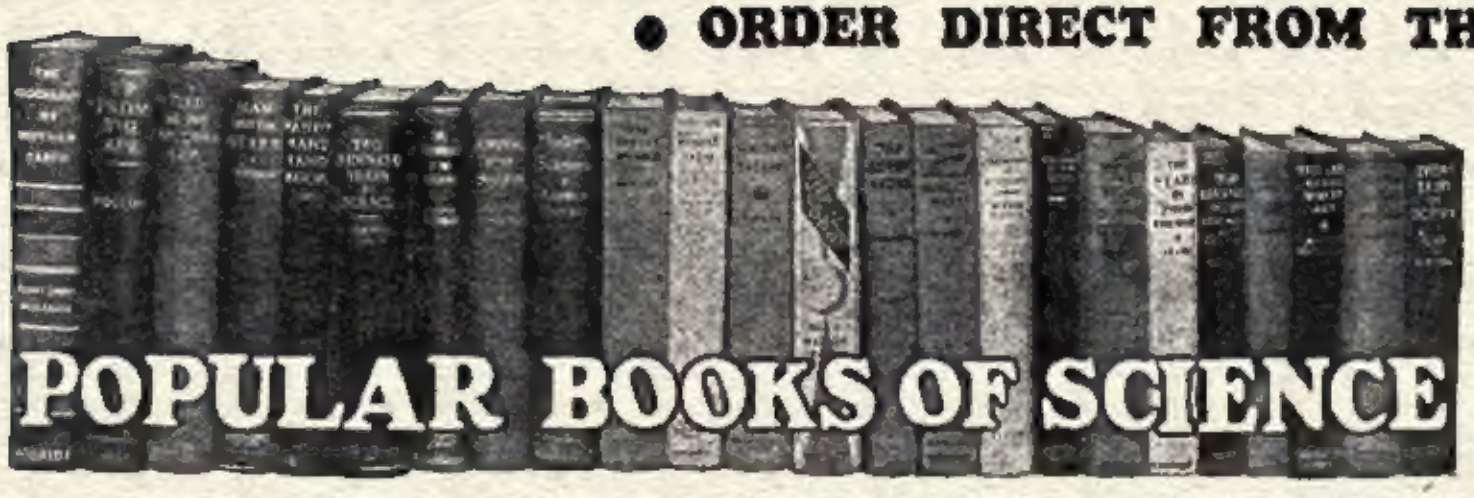

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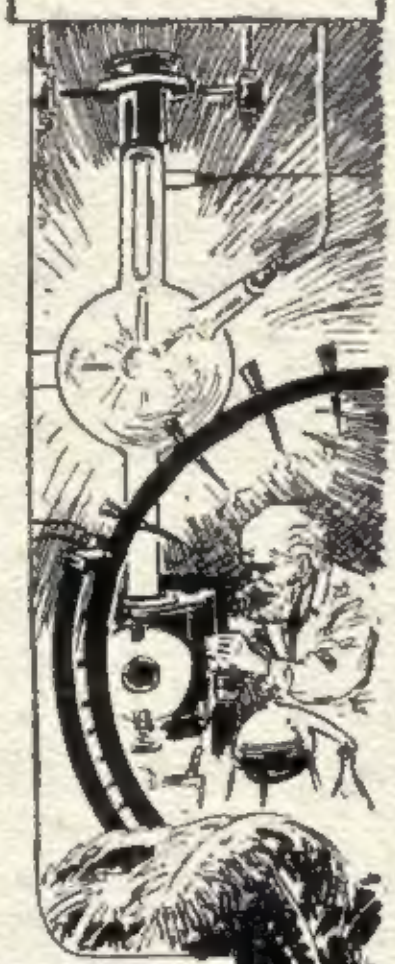

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from Raymond Gallun and John Michel's "The Menace from Mercury" shows our hero from the earth dashing his ship against the tower of Mercury in an attempt to destroy the force that is causing the planet to distintegrate. His friend the Martian has just caught him on the jo-jo and is attempting to pull him to safety.

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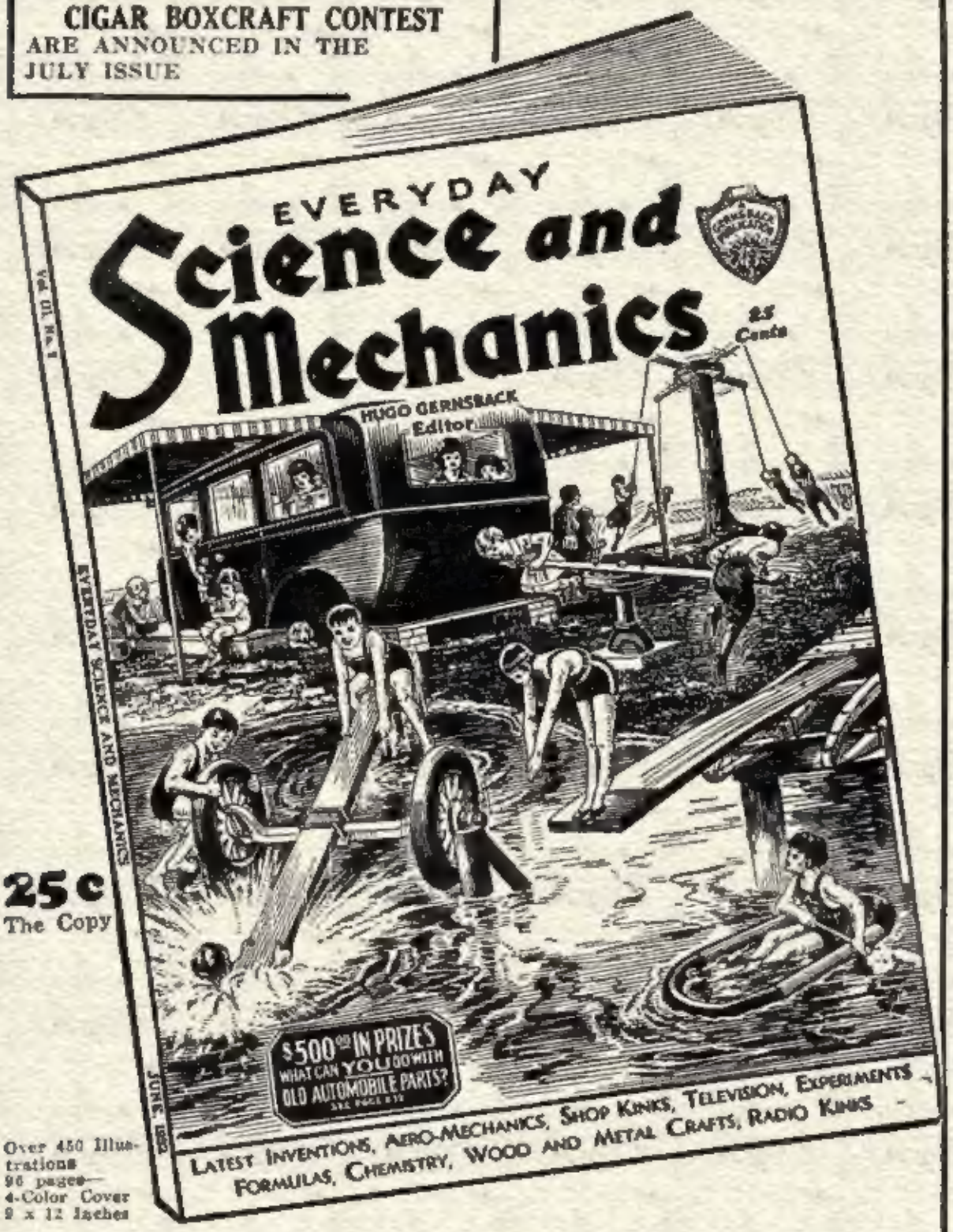

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WANTED: STILL MORE PLOTS

IN this issue of the QUARTERLY you will find the final story resulting from the Interplanetary Plot Contest first announced in the Spring 1931 QUARTERLY, as well as the first story resulting from our new Plot Contest.

The stories written as a result of the original contest have all been published, and the enthusiasm expressed by our readers, indicate that they wish the Contest to be continued. As a consequence, we announced that for the succeeding two issues we would award $10.00 for the best plot submitted up to the time of closing of each issue. We have pleasure therefore in awarding the third $10.00 prize under this new plan. If the results warant it, we will continue to award the $10.00 prizes at the expiration of the year set for this contest; and will continue it as long as we receive good plots.

Speaking of plots, we want emphatically to warn our prospective contributors against submitting interplanetary war stories. A plot submitted that simply relates a war between two planets, with a lot of rays and bloodshed, will receive little consideration. What we want are original ideas, new points of view on interplanetary exploration; new ideas regarding the activities of Terrestrials on strange worlds, and of extra-Terrestrials on earth. **Read the letter from George W. Race in the "Reader Speaks" of this issue and see what to avoid.**

The $10.00 prize for the best Interplanetary Plot received up to the publication of this issue, is awarded to Allan Benson, Box 410, Seattle, Wash.

WONDER STORIES QUARTERLY will pay $10.00 each issue for the best interplanetary plot submitted by our readers up to September 15, 1932. Professional authors are barred from this contest. The $10.00 prize will be paid upon publication of the story.

The man who sends in a plot:

1. That pictures people of other worlds as being just like Earthmen, and (as some authors put it) *speak English;*
2. That shows our hero going to another world to rescue a fair princess from an evil priest;
3. That shows our hero going to another world to single-handed overcome a great army; or
4. That shows our hero going to another world to conquer a horde of strange beasts;

This man should not hope his plot will receive serious consideration. If our readers study the plots that have been written into stories, they will perceive in each one some original "slant" on interplanetary travel, or of the conditions on other worlds. That original "slant" is what our readers should strive for.

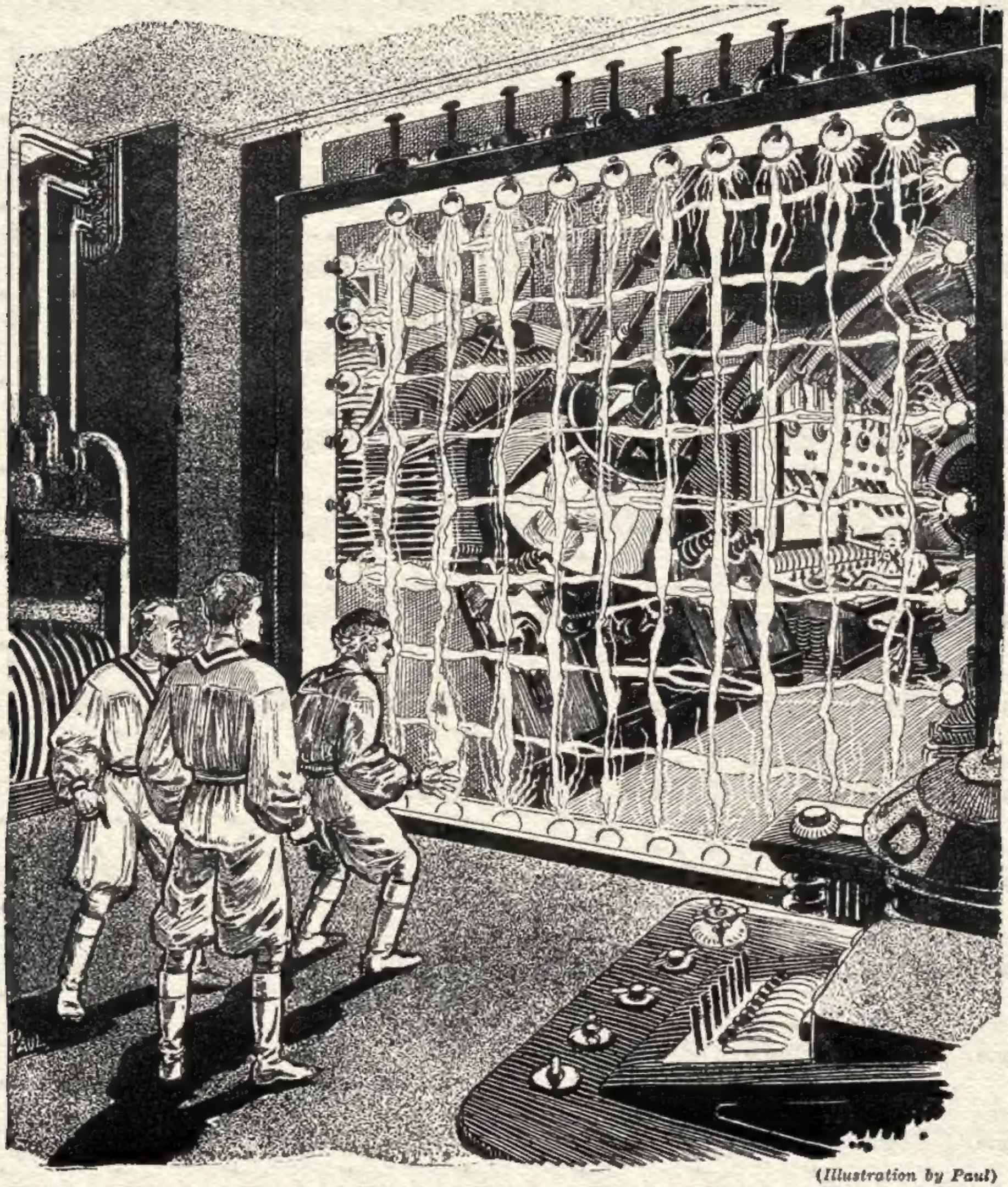
For other details regarding plots, we refer you to the Spring 1931 issue of WONDER STORIES QUARTERLY (Vol. 2 No. 3). Should you not have a copy of that issue, we shall be glad to send you printed matter outlining the details of the contest.

Above all, in order to receive consideration, your plots should be either typewritten or legibly and clearly written with a pen. Illegibly written manuscripts are practically always passed over without consideration. A good plot illegibly written may thus lose a prize.

The Next Issue of WONDER STORIES QUARTERLY Will Be on Sale September 1, 1932

BEYOND PLUTO

By John Scott Campbell



(*Illustration by Paul*)

Down came the big switch and at the same instant a crackling roar, a curtain of flaming electricity descended before us. We shrank back.

BEYOND PLUTO

by the author of "The Infinite Brain," etc.

WHEN Dr. Cummings and I came down the coast from Rasel Milah we were thoroughly ready for a vacation. With the last page of the manuscript our work, which had kept us over eight months in the highly mineralized and little known mountains of Cyrenaica, was concluded. Cummings, on our first night in Cairo's famous hotel, *The Shepherd*, relaxed comfortably with the remark: "Just think, Lawrence, another fortnight and we will be in London proofreading our text. *Recent Investigations on the Metaphoric Rock Deposits of North Africa*, by G. A. Cummings, F. R. S., M. A., and D. W. Lawrence, M. A. How does that sound?"

The two days spent in Cairo disposing of our equipment and packing specimens, passed quickly, and on the third we were ready to leave. Then Fate intervened.

I was in the cigar stand at the hotel when my attention was attracted by two men at the next counter. The taller I at once recognized as Lord Mitchell Hanavan, well known to the archæological world as the discoverer of the key to the Cretan sherds. His companion, a scholarly and rather preoccupied appearing person, I mentally classified as Prof. Sheridan Milroy, Britain's dean of dead-language scholars.

From the deep brown of their skin they had evidently been up river, engaged in one of their rather dangerous and decidedly dirty excavating expeditions in some royal graveyard. Inwardly congratulating myself upon having chosen the safe and sane profession of geologist, I started toward the lobby when I was halted by hurrying footsteps and Prof. Milroy's voice.

"I say, pardon me, but aren't you the Mr. Lawrence who was working in Cyrenaica?"

I admitted the charge, adding that Dr. Cummings was the senior member of our party. Prof. Milroy seemed delighted. "Excellent, sir, and most fortunate—our meeting here, I mean . . . And did you visit those ruins on the coast west of El Milah? Remarkable structures, resemble the Scottish dolmens, but Phœnician, undoubtedly Phœnician. I have read that there are burial vaults that have been sealed since the Third Dynasty. The author I refer to claims that he visited the spot in the Twelfth Century B. C. and that . . ."

At this instant Lord Hanavan arrived. "My apologies, sir, but Prof. Milroy seems to have taken you by storm." Then to the other, "Wait, my dear Sheridan, give the gentleman a chance to recover himself . . . Why, there have been no introductions yet!"

This vital ceremony over, Hanavan explained that they had both been interested in the coastal regions on the Cyrenaican peninsula for some time, in fact ever since Prof. Milroy had accidentally run onto a travelogue on papyrus in the Louvre.

Of course I had to disappoint them. Our budget was altogether too slim to allow side trips, even in search of worthwhile geological specimens. As I was explaining this and suggesting that they talk to Dr. Cummings, that person himself appeared at the door. Introductions were performed again. After hearing a repetition of our financial excuse, Lord Hanavan remarked: "You know we are geologists ourselves, in a way. Specialize in man-made stones, though. Run up against things lots of times that I fancy you don't find in sedimentary deposits."

"Well," laughed Dr. Cummings, "we find plenty of the bizarre, too, and human relics that were dust before your mummies' great-grandfathers were born. By the way, where have you been excavating? At the Valley of Kings?"

"No, farther up," answered Hanavan, "near Assuan, directly opposite the Island of Philæ, in fact. We've been at it some time on a rumor of another temple buried in sediment and sand, that

JOHN SCOTT CAMPBELL

OUR readers may remember the "Infinite Brain" by John Scott Campbell, published in the May 1930 SCIENCE WONDER STORIES. We pronounced this as one of the most promising stories we had seen from a new author, and predicted that Mr. Campbell would soon mature into an excellent writer.

The present story redeems that promise. It shows wide research on Mr. Campbell's part to gather the necessary materials from which to construct this exciting interplanetary mystery. It reminds one of Samuel Butler's famous "Erewhon", in the way that our explorers strike Zongainia, that scientific wonderland; and in the scenes upon other worlds and the way that our explorers conquer the terrific obstacles encountered—it shows a subtle knowledge of psychology on the part of our author.

We cannot, without telling the story in advance, show you how well our author has done his job. But we can remind you that when men from earth visit other worlds, encounter strange civilizations and are entangled in them, it is possible that the keen-witted study of the psychology of the people of those worlds may even be more important than the possession of scientific weapons.

rivals Philæ itself for size. And, you know, we found things there that Philæ doesn't have, I'll wager. But I say, can't you come up to our rooms this evening for a smoke? I can tell you all about it then. Sort of get it off my chest."

As may be guessed, we accepted the invitation with alacrity. Taking Prof. Milroy's arm in a paternal sort of way, Hanavan led the way to the street door, while Cummings and I went on into the lobby.

Dr. Cummings and I were delighted with the opportunity of getting acquainted with the pair. Lord Hanavan was internationally famous among archæologists for his work in Egypt and Mesopotamia. His paper on Cretan hieroglyphics is universally regarded as the final word; while the collections of relics he has brought back from his numerous expeditions are unsurpassed.

Prof. Milroy, his colleague, while of the second magnitude when compared to Hanavan, was a first-class anthropologist himself, numbering among his accomplishments a splendid knowledge of dead languages including Greek, Egyptian, Sanskrit, Ancient Persian and Hittite, as well as most of the tongues and dialects of the Orient in use today. His ability at learning foreign languages was uncanny; he seemed to grasp their complications by a kind of instinct, and nothing delighted him more than to study some intricate native *patois*, inventing phonetic spelling and classifying grammar as he went along.

WITH the coming of evening and its attendant calling of the *Muzzeims* from their slender mosque towers, Dr. Cummings and I ascended to Lord Hanavan's and Prof. Milroy's rooms on the floor above. It overlooked, across a narrow garden, the native quarter of the city. One could, in fact, see into the windows of the nearer mud brick buildings.

Sitting down to our iced tea and cigars, Dr. Cummings and I listened with rapt interest to Lord Hanavan's story.

"You see," he began, "all my life I have had a desire to explore the unusual, the mysterious. I suppose that is why I am an archæologist. In any case, when I heard peculiar native legends concerning a certain spot near the river at Philæ, I hastened there at once. Ordinary excavating through sand is bad enough, but water seepage made our pit all but untenable, in spite of the fact that we had pumps working twenty-four hours a day. And then, no sooner did we get started than the natives living nearby became hostile. They tried to set fire to timbers in the shaft and one night we caught two devils with a maul about to wreck the pump housing. After that episode a good watch was kept; either Dr. Milroy or myself sitting up nights in addition to a couple of native sentries.

"At first the job was rather discouraging, what with river seepage and interference by man; but as time went on a number of very interesting things came to light. After having descended about nineteen feet we came upon a layer of flat stones which turned out later to be the roof of a building. The entire structure was packed full of fine silt which probably helped preserve the contents by stopping oxidation.

"Well, after digging through about eight feet of this, we came upon a layer of rotten wood, crisscrossed by what had once been iron bands but were now only layers of rust. Side digging disclosed that it was a big chest. Inside, mixed with the river mud, we found remnants of papyri rotted beyond all possibility of reading, and a quantity of square platinum coins, stamped with strange characters. The oddest thing—they were milled around the edges like a gold sovereign. You may imagine how excited we were by this time, but as night was coming we decided to wait the morrow before continuing. Just before we climbed out for the day, one of the diggers stumbled against something under the foot of water and mud which covered the floor. Picking it out we discovered it to be a well-preserved baked clay tablet, like the Egyptians used for writing, completely covered with fine hieroglyphics.

"That night there was no sleep for anyone. First we went after the papyri, but they were hopeless—the ink had faded and the sheets of the roll were melted together into a solid cylinder. The coins were better preserved—here . . ." he dug in his pocket, "are some of them." He handed one to Dr. Cummings and to me and then continued.

"The inscriptions upon them were quite unintelligible even to Dr. Milroy, a thing which caused him much chagrin—eh, Sheridan?" He nudged his companion who looked anything but pleased.

"However, the strangest thing about these coins is their neat modern appearance. Most old coins are a sort of rough oval with the very rudest of characters stamped on their faces. But these were exactly square and bore a finely engraved design, one side of which looked like a bas-relief of the moon, while the other side was covered with very complicated characters unrelated to any known inscriptions. There is no sign of a 'picture writing' influence, for nowhere can we find even the remotest resemblance to natural objects. You can see for yourself how different these are from Egyptian or Phœnician money. And then they are made of platinum—a metal hardly ever used in the ancient world. But enough for the coins. The clay tablet was easier. In fact, Milroy translated at sight, so disgusted was he with the money. Later he made a written translation."

Here Lord Hanavan interrupted his narrative again and handed Dr. Cummings a sheet of paper. He read it aloud:

"Isis speaks and the words of Isis go as a thunderbolt across the world. Though the power of the Roman presses sorely upon the neck of Egypt, and our former greatness is as dust, the Gods of Egypt are not gone—they live and in battle they turn the lightnings upon the legions of their enemies and slay.

"For has it not been said by Has-id, the Priest, who went with our oppressors to the end of the Great River and beyond, until the hands of Horus and Ra stopped them? Did he not return with the news that our Gods and the Kas of our ancestors have returned to the Earth and that far to the South they do repulse the might of Rome and slay her armies even as the desert lion rends the hyena who ventures too near?

"And has Has-id not returned from the South with a great treasure of the white metal that is rarer even than gold, that the impoverished of Egypt may have food? Aye, such is so, and even now, we, the faithful remnant of desecrated Philæ, prepare to go up the River to join our Gods. Beware! O might of Rome! And beware, O ye who would venture to the promised land! For the temper of Isis is short and her lightnings smite quickly."

"WELL," exclaimed Cummings as he finished, "this *is* interesting! What else did you find?"

"Nothing," replied Lord Hanavan. "We didn't go to bed until after one and, of course, forgot all about setting a guard. Next morning we found the pumps smashed and the pit filled with water and half full of mud that had slipped from the sides. That was the last straw. We could not redig that shaft for weeks and, as the rainy season was coming, we simply had to give the job up for the year.

"Well, we swore about a bit and then started to pack up, when up the river shore came one of the natives. He was a particularly ugly old fellow named Achmed, who

owned a little farm nearby and seemed rather well supplied with money, in contrast to the other poor wretches. After the usual courtesies this person asked us why we were leaving. I knew right away that he was responsible for our damaged pumps. But, you know, there was no evidence, so I controlled my desire for revenge and told him that we had found everything we wanted—including a most important tablet.

"I had expected this would disturb his smug contentment but, by Jove! I never anticipated such a demonstration. He simply went up in smoke and demanded to see the tablet on pain of some terrible doom. But we only laughed and told him he would land in jail if he kept that up. At that he calmed down and said he would bide his time, but when we left we knew there was at least one Egyptian who did not bear us any love.

"Well, we packed up and came down to Cairo—that was three days ago—and we are resting on our oars, as it were, until we can make further plans. We are going to visit the library here and see if we can locate any other records bearing on that Roman expedition. They have, you know, many papyri which escaped the fire at the Alexandria Library."

Dr. Cummings fingered one of the coins. "You seem to have run right into a real oriental mystery here. I wonder what there is up the river? I suppose—"

At that instant his words were cut short by the crack of a rifle and the splintering of the window pane. Lord Hanavan jumped to his feet and switched off the light while Prof. Milroy, belying his pacific appearance, drew a wicked-looking automatic and leaped to the window. Outside there was utter silence. No light showed in any of the windows across the court from whence the shot had come. Apparently the noise had passed unnoticed.

There was a moment of silence in the room. Then Lord Hanavan whispered: "Achmed! It must be! . . . To think he would go to such extremes!"

As he said this, Dr. Cummings, who was standing near the door, stepped quickly over to Lord Hanavan and whispered to him.

"Some one breathing . . . outside the door . . . waiting for you to come out . . ." The other nodded. "That's good." He paused and added, "Rotten way to treat you—like this—when you are my guests, but—"

I felt his smile through the darkness. Stepping over to where Cummings and I stood, Hanavan whispered his plan to us.

"I will wrap my coat about a pillow and push it out the door. Then, when whoever is there shows himself, we will both fire." This to Milroy, who nodded silently.

"Then," continued the archæologist, "we will rush him. Have either of you a gun?" Cummings and I shook our heads.

Hanavan went to a drawer. Coming back in a moment he pressed something cold into my hand. "Ancient Nubian dagger," he whispered, "very efficient." He gave something similar to Dr. Cummings.

A moment later he had folded his overcoat about the pillow, placed a hat upon the top and was slowly opening the door.

The hall was faintly lighted from the window at one end. It seemed quite unoccupied when suddenly a bare human arm with a wicked curved knife gripped in the hand, shot down and into the coat. At the same instant Lord Hanavan's and Dr. Milroy's guns spoke. Together we leaped into the hall. Halfway down toward the farther end ran a man crouched low and holding one arm against his body. Lord Hanavan shouted at him: "Stop, or we fire!" But the fugitive paid no attention. Then, just as he was at the fire-escape window, Prof. Milroy shot. With a cry of pain the man went down and lay kicking on the floor. We rushed to him where we found that, beyond a shattered wrist and a flesh wound in the calf, he was unhurt.

As we bent over him there came a commotion from behind; the night clerk, a native policeman and a number of guests of the hotel surrounded us. Lord Hanavan explained tersely what had happened. The would-be assassin was taken to the room while an ambulance was sent for. Here Lord Hanavan proceeded to question him.

At first the wretched native would only moan and cry that he was dying. But finally, under Hanavan's insistent quizzing he burst out—"Yes, I will tell. I will speak truth. As Allah is my witness! Here I am dying for that dog Achmed, who is not even a true believer. He was to pay me two pounds to stab whoever came from the door first, after he had shot one of you. But he missed and now I am to pay for it with my life! *Allah! Il' Allah!* Allah is the only God and Mohammed is . . ."

The ambulance patrol sounded outside. Lord Hanavan shook the native. "Why did Achmed wish to kill us?"

"Because you have that Tablet," cried the man on the bed. "I myself do not know what it means, but it is priceless to him. He is . . ." He paused and glanced about. Sensing his thoughts, Hanavan said, "You are beyond his power now. Speak while you can."

Writhing with the pain of his wounds and the fear of the hereafter he replied:

"He is the High Priest. He seeks to receive messages from the Old Gods who walked the Nile Valley many years ago—he is the Priest of Isis."

At this instant the policemen entered the room and shortly afterward they carried the native out on a stretcher, cursing the name of Achmed and crying to Allah for mercy.

CHAPTER II

Up the River

I DO not think any of us slept the rest of that night. We sat in Hanavan's room until near dawn, consuming innumerable cigars and trying to figure out just what it was all about. Hanavan, who was most experienced in Oriental ways of thinking, was of the opinion that we had simply crossed with some obscure religious sect. But the peculiar tablets, and the still more peculiar coins hinted at something deeper.

Finally, after many hours of fruitless discussion, Dr. Cummings and I returned downstairs to our own rooms, where we spent the rest of the night talking to each other and thinking to ourselves.

About ten the next morning we received a note from Lord Hanavan stating that he was going to the library and wished our company. Rather glad to continue with this mystery we sent word that we would be down at once. Ten minutes later in a cab, we were *en route*.

Conversation languished until we had arrived at our destination. There was really nothing to say until we had more definite information.

At the library Lord Hanavan's name was sufficient to gain us entrance to the innermost vault. And, as it turned out, it was just the place that we wanted to go. The Curator escorted us through the reading rooms, then down into the binding rooms in the basement, past rows of dust-laden mummy cases and unopened papyri, and then down again into the little-used sub-basement where the Alexandrian papyri were stored. It was a musty place, fairly exuding the odor of centuries. The Curator left his lamp

and returned to the upper floors. We were alone with the past.

Prof. Milroy was in his element. Passing down the long shelves of cylindrical papyrus cases, he dusted off and read the name on each. At last he stopped with an exclamation of pleasure, and opened a crinkly roll. It was inscribed in Latin, which Prof. Milroy read as easily as English. After a moment he replaced it in its receptacle saying, "The expense account of one of the Roman Satraps' hunting parties in Nubia . . . Ah, this looks interesting, 'Report of the Expedition under Iulius Marcus to the land of Punt.'"

After reading several pages he replaced the roll. "Nothing here." He scanned the next roll and similarly replaced it. Then his eyes lighted upon something of interest. Unrolling the crackling paper he read silently; then his face lighted up.

"This is it—as I live and breathe, we have before us the very thing!" Holding it before the lamp he read:

"After ascending to the headwaters of the River Soaht from the Nile we entered into a country of many people, including Egyptians who have fled from Roman justice. Living with them was a strange race believed to be immortal. But this was not so, for we killed many in battle. But, by the grace of an evil god who prevailed against us in this far land, we were driven back and attacked by a wondrous sort of Greek fire which shattered all near it as a thunderbolt. And so failing to receive aid from the noble Satrap, we retired down the Soaht unto the Nile and thence into Egypt. It is recommended that a stronger force be sent to this land to conquer it for they are rich in gold and jewels and the rare white metal from the North . . ."

He paused. "This is the very thing, Mitchell. We have it!" This to Lord Hanavan. "Soaht . . . Soaht . . . What river is that, I wonder? I seem to have heard of it before . . ." He folded up the roll; his brows puckered in thought. Then:

"Ah! I have it. It means the Sobat River . . . a tributary of the Nile that enters well below the tenth degree, as far South as Addis Ababa, if I am not mistaken. Well, Mitchell, here is our little mystery all solved. A camp of Egyptians fled from 'Roman justice.' I'll wager there'll be something there for an archæologist." He rubbed his hands together. Lord Hanavan, taking the roll, replaced it. "Yes, that explains everything," he said, "except the writing on the coins. It is not Egyptian."

We made our way up from the sub-basement in silence. As we passed through the relic-filled stack room, Prof. Milroy stopped a moment to examine a particularly ghastly mummy, when Lord Hanavan seized his arm and pointed down a long aisle where the shadows were darkest. "Something . . . moved . . . there," he whispered.

Prof. Milroy drew his ever-present automatic. Leaving the lamp on the table we slunk into the shadow and waited. After a moment there came down the dark aisle between the book stacks a muffled shuffling sound. For an eternity, it seemed, that sound approached, and presently I thought I detected a faint breathing. I felt the hair rising on my head and a weird tingling go up my spine. The others waited . . . breathless . . . Dr. Cummings was holding a white club-like object he had seized from the table as he passed. Second by second the shuffling came nearer. It was evidently in the next aisle from us. Stooping, Lord Hanavan peered between the rows of books on a shelf, but evidently he saw nothing. Finally the footsteps were opposite us; then they stopped. Silence, tangible, horrible, set in. The beating of my heart seemed like a piledriver in the place. Not the faintest echo came from the streets above. I saw that Lord Hanavan was edging toward the end of the case where he could look down the next aisle. Dr. Cummings, Milroy and I followed, and now I observed, with a sort of horrible fascination, that the geologist grasped a human thigh bone in his hand.

FINALLY Hanavan reached the end of the bookcase where he slowly extended himself around. Milroy waited, his fingers becoming white as he grasped the gun. Then, like lightning, Hanavan swung his own gun up and shouted "Throw up your hands—I have you covered!" I commenced to run toward him, when from the next aisle there came a clatter of falling objects and a voice.

"Gott im Himmel! Was ist das? Don't shood mit dot! Id might go off!"

Hanavan lowered his gun in amazement, and the next instant a stout, bespectacled gentleman in swallowtail coat and bowler hat appeared.

He at once produced a vast white handkerchief with which he mopped his forehead copiously. "Vot kind uf blace is dis ven beeple come around like highwaymans mit guns?"

The reaction after those few tense moments was great. Milroy, Cummings and I leaned against the shelf, while Hanavan interrogated the newcomer.

"Sorry, old man, really. But we were attacked by an assassin only last night so, of course, hearing steps in what we thought a deserted cellar . . ."

"Ach vell, den id's all right. Bud, *mein Gott,* you did giff me vun scare. I thoud sure dot I vas going to be killed." He hesitated. "My name is Professor Ludwig Pfeiffler, University of Heidelberg. Und whom have I the pleasure uf meeting?"

Lord Hanavan introduced us all and then suggested that we ascend to the street. While doing this, Prof. Pfeiffler explained his presence in the library.

"In the University," said he, "I hold der chair uf Biology und Physiology. Dis trib is mein first vacation in five years. I travel through France, Italy, Turkey, Palestine, und I haf been spending the last few days here in Cairo, before I return home. In der library I am collecting literature on ancient locust blagues. Effen ven I am on a vacation der University oxbects me to do some vork. Und I haff not die heart to disabboint id. Vell, gendlemens, if I do not seem too curious may I ask aboud yourselves? Und esbecially aboud dot assassin of last night."

By this time we had passed out of the library where Hanavan, after finding that Prof. Pfeiffler had no engagement, suggested that we all return to the hotel for lunch. In the cab he explained all that we knew concerning the mysterious coins and tablet, Achmed's hostility, and the papyrus that we had recently found in the library.

"Vell,'" said Prof. Pfeiffler when Hanavan had finished, "dot is inderesding, I must say. I subbose you are going to go op de rifer und dry und locade dis blace. My, I vish somding like dot vould habben to me so I could haff a goot reason for extending mein vacation. All mein life I vant to haff at leasd one goot adventure, but so far de most exciding thing I haff done is shoot at katz in de night."

For some time we rode in silence. I noticed that Lord Hanavan was looking at Prof. Pfeiffler as though sizing him up. However, he said nothing at the time, and in a few moments we arrived at our destination. Here Lord

Hanavan's first act was to bring from his room a large map of Africa. While we were awaiting our lunch he traced the path of the ancient Roman expedition up the river until he came to the end of the known, the place where the map was a blank, with a single dotted line running across—the surmised course of the upper Sobat. Here he paused, his finger resting on the blank. A space roughly four hundred miles through dense forests to the rolling plains. A place untraveled, avoided by explorers and shunned by the natives.

"It seems odd," mused Hanavan, "that the Egyptians should have gone there when no one else did . . ."

At this moment the luncheon arrived and for a time conversation ceased. Afterwards, over the ever-present iced tea and cigars, we talked. Prof. Pfeiffler listened. Indeed for some reason we already regarded him as one of us. Lord Hanavan was speaking:

"You know," he began, "this idea of a lost city in the jungles rather intrigues me. It has so many possibilities. I have always wanted to find such a thing. Now, there seems a chance, and a good one, of making a really valuable archæological discovery and at the same time having a little adventure of our own. I am in favor of going up the Nile, on to the headwaters of the Sobat, and then finding out just what is up there. Milroy and I can be the archæologists; Dr. Cummings and Mr. Lawrence will attend to the geology of the region, and . . ." he hesitated, "Prof. Pfeiffler, if you can, we will be glad to include an expert biologist to note the flora and fauna. What do I hear, gentlemen? Is it agreed?"

The answering chorus was enough. Once our minds were made up, there was no back-tracking. Our conversation turned immediately to planning. What had, but a few moments before, been a group of chance acquaintances was now a united party, all working toward the common goal. Thus strangely does the mind of man rush him into bargains whose results he cannot hope to foresee.

Well, it was done. For better or for worse we must see it through.

ONE who has never had a hand in planning an expedition of exploration cannot conceive of the amount of thought necessary to get even a modest party like ours under way. In the first place, its drain upon the exchequer was tremendous; money seemed to melt into nothing at every meeting, yet we knew that compared to some exploring parties we were very economical. To begin with, it was necessary to buy an almost complete new outfit, for the equipment Lord Hanavan had used at Philæ was too heavy to carry on a long trek. Then we had to have food, arms and ammunition, clothing, a portable radio sender and receiver, and a thousand other accessories, small in themselves, but still mounting in the aggregate to many hundreds of pounds.

Lord Hanavan, however, met the financial situation with the same *sang froid* with which he faced other dangers. And so, near the end of the rainy season when the muddy flood of the Nile was beginning to subside, we were ready to start.

Passage for five persons and three tons of equipment was secured on the steamer; Hanavan telegraphed Assuan, the end of the steamer schedule, for a smaller boat to be chartered. Then we were off.

The voyage up the Nile remains in my memory as a period of peace and tranquillity between the bustle of preparation and the work and worry of the long trip on the White Nile. Egypt dropped behind us league by league. The broad fertile belt near the Nile Delta narrowed into two parallel strips of irrigated farms, squeezed between the river and the bleak desert hills. On either side bluffs of red or gray rock arose, parched and hot in the day and silvery and mysterious at night. We sat out upon the deck for hours each evening, watching the moon rise and the land slip astern like a procession of ghosts wrapped in a dim mantle of mist.

At last the journey ended. The river was cut off from farther navigation by the long low bulk of the Assuan dam. Here we must push forward on our own.

The boat for which Lord Hanavan had telegraphed awaited us at the quay above the dam. It was a native craft, some twenty-eight feet in length, powered with sails and a somewhat erratic gas engine, and manned by five muscular and sullen Arabs.

Our luggage was immediately transferred to the boat from the steamer and then we disembarked. Lord Hanavan had some business of his own to attend to—getting letters of introduction to the resident Governor at Khartoum in the Sudan; so the four of us after seeing our baggage safely stowed away, proceeded to see the sights.

Assuan is not a particularly interesting place. It is too far up the river to receive any great bulk of tourist traffic, so here was revealed the squalor of the Orient rather than its showy side. The bazaars were filled with unsavory-looking food and crude clothing and brassware, instead of the finely-wrought trinkets on display in Cairo. Mingling with the Egyptians and Arabs were many black men—from Ethiopia and the tropic jungles far South. It was as though the first cataract of the Nile marked the boundary between civilization and savagery. Here our real voyage was to begin.

That night we all slept on the boat; that being the only sure way of knowing that our baggage would not disappear. Ali, the "captain," and his four odorous companions said their prayers and huddled together in the bow. We made ourselves as comfortable as possible in the tiny cabin aft.

Next morning we arose before sunrise, while the mists were still upon the river and the night-time chill kept the boatmen in huddled torpidity under their blankets. Prodding them into consciousness we all ate a little breakfast and then, starting the engine with two Arabs rowing and Ali at the stern sweep, we pushed off.

The voyage up the Nile to Khartoum was long and uninteresting. There were five rapids to portage over; a task which necessitated the complete unloading of the equipment each time. There were stretches where the current was so swift that the four Arabs had to go ashore with the rope and haul the craft. But Ali, the captain, knew the river. So at last the low mud buildings of Khartoum appeared.

Here Ali was paid off and his boat went shooting down stream to accomplish the return journey in a fifth of the time taken to ascend.

Once ashore, Lord Hanavan and Prof. Milroy went to the Governor's residence with their letter while Cummings, Pfeiffler and I remained with the baggage. The waterfront of Khartoum was as different from that of Assuan as that city was from Cairo. Here the Arabs were in the minority, their place being taken by negroes from the lands to the South. The substantial mud houses of lower Egypt were partly replaced by the characteristic rush-dwellings of the equatorial regions. At Khartoum the Nile forked; its two great tributaries, the Bahr-el-Azrak, or Blue Nile, turning East, while the Bahr-el-Abiad, the White Nile, continued Southwest. It was on this latter stream that our course lay.

CHAPTER III

Into the Unknown

WE had been waiting at the quay for perhaps half an hour when Prof. Pfeiffler spoke to me.

"Look over there. Behind dose barrels. Vot an awful oxbression!"

I peered where he indicated just in time to see a dark Egyptian face, twisted into an expression of mingled horror and rage, vanish behind a heap of goods. Dr. Cummings who had seen the apparition too, smiled.

"He doesn't appear to bear us any love, does he? I wonder who he is?"

At this instant Lord Hanavan and Prof. Milroy returned, accompanied by a man whom they introduced as the Governor himself.

The Governor of Khartoum has left the most pleasant impression in my memory. He was so tanned from residence in the tropics that, were it not for his clothing, one might mistake him for an Arab instead of an Englishman. He was much interested in our expedition and contributed some information about our objective.

"When you speak of it, I do seem to recall something about a lost colony of Egyptians. A sort of legend passed around among the blacks here. They talk of a country of enchantment and evil spirits in the South. They placed it rather definitely in the region northwest of Lake Rudolph: a place, by the way, quite unexplored and, from what I hear, a wild mountainous waste where even the savages cannot exist.

"You know, I have heard some of the oddest yarns about the district. When an army plane came up from Assuan some time ago, a lot of the blacks came running to me crying that one of the evil spirits from the South was after them. They speak about moving stars on cloudy nights, and of parties of hunters that ventured over the cliffs that surround the place and never returned."

Lord Hanavan seemed impressed. "I wonder," he asked, "why no white men have gone to find just what base these rumors have?"

"Oh, there have been expeditions like that," replied the Governor, his face clouding. "Two. Both came through Khartoum. The first was in the summer of '14 a surveying party of eight—they never came back. In 1915 a search party was sent out; they carried a wireless set and we received from them for several weeks, then then messages stopped—we have never heard another word of them. In 1916 the excitement of the war prevented another search party, and after that everyone seems to have just forgotten."

This was rather ominous news, but after our weeks of anticipation all it did was to send a thrill of excitement through us. Lord Hanavan assured the Governor that our radio would send messages each night and if we were overtaken by some unknown danger the outside world would at least know what to prepare for.

Final preparations consisted in procuring three long native canoes, each with four rowers. The Governor's assistance greatly facilitated matters here, with the result that two days later we were being propelled swiftly upstream by twelve muscular and taciturn Ethiopians.

As we continued south, the rocky barren bluffs of the river gave way to tree-covered hills, while far to the southeast the bluish mountains of Ethiopia appeared. Dr. Cummings mentioned the face we had seen at Khartoum to Lord Hanavan. The latter seemed rather perturbed and ordered that two of our rowers should stand guard every night. We proceeded onward thus for some days, when one evening one of the negroes anchoring a canoe some distance downstream to fish, discerned about eight miles below and around a point of land, a campfire. He said it lasted only about twenty minutes, as though whoever was camping did not wish to be conspicuous longer than necessary to cook a meal. As the fire was on the same side of the river that we were, Lord Hanavan ordered an immediate transfer to the other bank. Next morning before proceeding on we returned to our former encampment and found it was well that we had moved. The soft mud was covered with the tracks of sandaled feet.

That night we stayed on an island and Prof. Milroy, a rifle on his knee, sat all night on a mass of brush jutting into the stream. However, he saw nothing but crocodiles.

Four days later we tied up at the little station of Kodok. Sixty miles farther was the mouth of the Sobat River.

Three days after leaving Kodok our sturdy oarsmen turned the prows of the three canoes into the current of the Sobat River. Now indeed we were entering the unknown. White men had been up and down this stream, but upon either bank the jungle was haunted only by savage beasts and the no less savage blacks. We camped on islands whenever we could, and at other times at the extremity of a bar where the boatmen drove herds of crocodiles away to make room for us. Our pursuers did not show themselves, and after one of the canoes had drifted some seven miles down stream with Lord Hanavan watching the shore through his night glasses, we decided that they had given up the chase.

DURING the days we sat under improvised awnings, rifles across our knees, watching the dark jungle slip by. Occasionally we glimpsed forms regarding us from the trees. "Gorillas," said Lord Hanavan.

One hundred and twenty miles up the Sobat was the village of Nasser, where swarming dogs gave us a magnificent ovation from the moment we hove in sight. There were no white men in the town, but we were told that at Akobo Post, forty miles up the Pibor River, a tributary of the Sobat, we might find one.

At first there was some argument about deserting the Sobat. Finally, one of the old natives said he remembered that several white men had journeyed up the Sobat many moons ago and that they had turned at the Pibor. That decided us. Two days later we arrived at Akobo Post.

The lone Englishman who resided there remembered the two expeditions distinctly. Their radio was the first he had seen, and he had arranged to keep their heavier equipment until they returned. He had it yet. The Englishmen, he told us, had turned off the Pibor River into a small unnamed stream, which led due south for an unknown distance.

Asked about the peculiar moving stars by Lord Hanavan, the man replied that though he had never seen such he had heard many tales from the natives. Some, he said, swore that they had seen the moonlight reflected from something shiny in the air, like "a big fish."

Well, we rested at Akobo four days—the guests of the Englishman. Our canoes were given a thorough going-over and the rowers feasted heavily. Then, early in the morning, we started out.

The stream into which the canoes turned was so narrow that the towering trees touched together overhead, making a sort of green tunnel. The banks were, in places, less than thirty feet apart, while through the coffee-colored water we could see crocodiles and many strange and ferocious-appearing fish.

On the first night after leaving Akobo, Prof. Pfeiffler commenced to function as a biologist. We had stopped

early so that gentleman, fashioning himself a net of mosquito netting, went down a jungle trail in search of insect life. He had not been gone ten minutes when we were startled on hearing his voice calling lustily for help. Seizing rifles we all rushed down the trail, fully expecting to find our poor friend's mangled remains in the clutches of a lion. However, when we at last came in sight of him, what should we see but the Professor rolling about in the grass, his arms fast around a tiny furry brown creature which had torn his coat to ribbons in its efforts to escape. We pounced upon the animal and tied it, while Prof. Pfeiffler was recovering his feet and breath.

"What is it?" we asked.

"*Ursidae*—a dwarf bear—a most rare specimen!"

Two days later the stream became so shallow that the rowers had to spend half their time overboard. The current had increased considerably and the more open character of the forests warned us that we were nearing the mountains. Finally, around a bend we herd the roar of water, and a few moments later we found the way blocked by a beautiful cascade.

At a word from Lord Hanavan the boats were drawn to shore and we all disembarked. Hanavan, Cummings and two natives climbed at once to the top of the cliffs over which the stream poured. After a half hour they returned with the news that beyond, the land sloped upwards through open woods and grassy glades, and that the river became a mere babbling brook. We had reached the limit of water travel. That night we completely unloaded the canoes and pitched the tent inside a *boma* of thornbushes. We cooked and ate our supper in silence, and were about to retire when the leader of the blacks appeared from the place where they had been sitting. Saluting, he spoke to Lord Hanavan:

"We," indicating the group around the fire behind him, "want to know what you going to do. Our women are waiting for us in Khartoum."

Hanavan, sensing that there might be some difficulty, replied:

"We are going on south, but we do not ask you to go, if you don't wish to. You can camp here with our supplies and the canoes while we go.

"We will go for five days march and then come back. You wait here fifteen days and then if we do not return, go back and tell the Governor at Khartoum to send aid. Understand?"

The native nodded and bowed again. As he turned to leave us, there suddenly resounded a cry of fright from the other fire. One of the rowers was pointing upward through a rift in the trees and crying in his tongue: "Flying devil! Flying devil!"

Springing to our feet we rushed to where we could see, and there in the sky above we clearly saw a speck of light, like a brilliant star moving swiftly and silently across the heavens.

Lord Hanavan at once seized his glasses and peered at the strange object until it was out of sight. But he discovered nothing. Dr. Cummings suggested it might be a meteor, but it left no luminous trail, and it was going *upwards*.

THE visitation left the blacks in a pitiable state, and it was with great difficulty that Hanavan persuaded them to promise to stay the fifteen days. A little later we set the radio up and around ten p.m. got in touch with Khartoum. Lord Hanavan sent a message for the Governor, telling our location, the character of the land ahead and of the strange sight we had just witnessed. We conversed in code with the operator at Khartoum for some time, and promised to send another message as soon as we returned—ten days hence.

Then, accompanied by the roars and howls of the myriad forms of jungle life about us, we made our beds.

The first glimmering of dawn found the five of us up and packing. We could carry only the most necessary things—rifles, ammunition, blankets, food and cooking utensils, compass and field glasses, a first aid kit and a Sept camera made up our total equipment. Ours was to be a survey trip a dash over the mountains and back to determine further action. At about seven a.m. we tramped away, rifles slung on our backs, leaving the boatmen eating their breakfast of fish and monkey meat over a smudgy fire.

During the course of the day we ascended steadily through a park-like forest of majestic trees. Twice we sighted small deer; a sure sign that we had left the swampy jungle definitely behind. The air became cooler and in the little open prairies we felt breezes. In the evening we camped at the foot of a gigantic tree in whose hollow bole we all huddled. Lord Hanavan's barometer indicated 3,100 feet elevation.

About noon the next day the forest suddenly ended and we found ourselves on the edge of a narrow rocky plain whose other side was bounded by a towering rampart of rock. East and west as far as the eye could reach, this imposing cliff extended; trees occasionally waving over its top, and little cascades spurting out from its surface at intervals. Not a rift, not a crevice could be seen. Dr. Cummings, the geologist, expressed his amazement at such a formation. "It is either a remarkable fault or an immense sill," cried he. "Wait a minute while I photograph it."

Whatever the cliff was geologically, it nevertheless presented to us an impassable barrier. Unless we could find a way of scaling it, the lands to the south would have to remain unexplored. As we had some three and a half days left of our five, Lord Hanavan suggested that we search along its base for a break. Prof. Milroy flipped a coin to decide the way, and then we all turned and marched due west.

All during that day the precipice presented no break. Its base was piled high with great chunks of rock broken off from the top; while the bleached skeletons of animals attested the presence of life above. Lord Hanavan estimated that nowhere was the cliff lower than 800 feet while in many places the crest was a good 1500 feet above us.

As the fourth day drew to a close we had about decided that our quest was hopeless, when Prof. Pfeiffler, with the glasses, discerned a dark streak running up the facade of the rampart.

We hurried on, half expecting to find only an outcropping of dark rock, but arriving abreast of it we found a crevasse scarcely four feet wide extending up and back through the solid rock for an unknown distance. It sloped at an angle of some sixty degrees and led right to the summit. Boulders wedged here and there would make easy the task of climbing. At last, after weeks of delay, fortune favored us. That night, camp was made at the foot of the crack, up which a draft of cold air continually poured, and at daybreak on the fifth day we began the ascent.

Climbing proved much more arduous than we had thought, for the rock, a smooth basalt, made necessary the use of ropes at times. We stopped near noon atop a giant boulder wedged between the walls and ate some lunch. Prof. Pfeiffler at that time discovered a small orange-colored snake in a crevasse and almost slid down the shaft in an endeavor to catch it.

At one p.m. we started again and at four, exhausted

by the labor, we hauled each other out on the top of the cliff.

From our position over a thousand feet above the forest, a wonderful view could be had of the trail northward. Through the evening mists one could make out the silvery ribbon of the Sobat River—more than sixty miles away, winding out of sight. We could see no sign of the boatmen's camp because of the haze and dense foliage.

After a few moments' rest at the top of the "chimney," the five of us turned our faces south again and started on upwards. In the three and a half hours of day that remained, we ascended more than three thousand feet. At last, near sunset, the slope leveled off, and pressing on through the last ranks of trees we came upon the top

We were upon the balcony peering off into space. We were overlooking an enormous amphitheater, miles long and wide.

of the ridge. There we stopped in sheer amazement at the wonder of what was spread before us.

Directly beneath our feet the mountain descended, possibly a thousand feet, to a wide plain covered with mist. And on the other side of this—some forty-five miles from where we were—there reared up the most impressive mountain I have ever seen. A wide base of blue forest-covered foothills pyramided themselves upward through banks of clouds made scarlet by the sun, until the whole mass culminated in a single summit, shimmering white in the sunset, arising majestically to a perfect cone in the still air. After our hot struggles during the day and the weeks of viewing only hemmed-in jungle flats, the sheer beauty of the peak held us spellbound. Dr. Cummings' camera lay unnoticed in its case and even Prof. Pfeiffler was silent. Then, even as we watched, the vast clouds massed themselves together and in a whirl of colored vapors covered the mountain from our sight, leaving only a towering cumulus cloud.

For some minutes we said nothing; then we all distinctly saw a strange thing. At the very foot of the mountain in the midst of the evening mists, there suddenly appeared a number of brilliant specks of light, like sunlight reflected from windows. They shone for a moment and then one by one vanished.

Five minutes later the sun's enlarged disk disappeared behind the western hills and the tropic night set in without warning, blotting all from view.

CHAPTER IV

Prisoners!

IN spite of the fact that we were going over our time limit, Lord Hanavan determined to push on to the base of the mountain. In the first dim rays of dawn, when the valley was still covered by a thin blanket of fog, we ate our cold breakfast and started down the mountain. Within a half hour we found a dry creek bed whose bare rocks presented a much better road than the tangled thickets on either side. Once off the mountain summit the more distant view became invisible; indeed, we caught no glimpse of the great peak until we were well into the valley.

For some hours we proceeded down the little canyon without seeming to near the valley. Then, utterly without warning, we came upon the amazing, the unbelievable. The trees that had hemmed in the gulch suddenly ended and a cleared space perhaps a hundred yards wide cut across the creek. But it was not this break in the trees, not even the fact that they were cleanly sawed, that we noticed. It was what was evidently a steel railroad trestle spanning the canyon.

I think we all stopped dead for an instant at the sight. Then Lord Hanavan ran forward to the nearer pier, we following. The column of steel rested upon a massive block of concrete. Beams and braces radiated from it; their joints welded together. The column was triangular and apparently hollow for it resounded when struck.

Lord Hanavan was the first to recover his voice. "A bridge of this sort—here! It can mean only one thing—white men—civilization! A railroad . . ."

Prof. Pfeiffler interrupted, pointing upwards: "Look! There iss only one rail."

Dr. Cummings pounded on the column, "Look at its construction; those beams would require a foundry to make, and the welds . . . I never heard of such a thing!"

"Those lights!" cried Prof. Milroy suddenly, "Those moving lights . . . what connection have they? An airship?"

But at this instant our conversation was cut short by a metallic rumble from above. Turning in common apprehension, we raced for the shelter of the trees and then waited. In a moment it came, the car that ran on the strange track. A long low steel structure with a pointed prow and many round windows. Underneath were two metal shoes upon which it slid. A cog wheel between the runners revolved rapidly, carrying the machine forward. I caught a glimpse of two men in the front, through the windows, and then it was gone.

For fully five minutes we remained under the trees, too stunned to say a word.

"What kind of a country is this?" gasped Prof. Milroy, "a train . . . on runners . . . airships . . . such a mountain . . . Are we dreaming?"

Lord Hanavan cut him short. "We are not dreaming. This unknown mountain is easily explained by its perpetual covering of clouds . . . the airships are only hypothetical. The train . . . well, let's go on and see what it means."

After listening for the possible return of the car, we scurried across the clearing like scared rabbits, and started down the creek bed.

We had proceeded perhaps three miles when wonder number two presented itself to our eyes. It was in the form of a huge mass of twisted, rusty metal, overgrown by creepers and evidently very old. Roughly it resembled the car we had just seen, for in some of the side plates there were round windows. But there was no track or bridge near, and closer observation showed that it had no sliders underneath, or indeed any sign of traction device. Prof. Milroy said he thought it had fallen from the skies as the trees above showed old scars. The top of the car was neatly cut open as with an acetylene torch, and evidently much had been taken out from inside. But where it had been carried or how there was not a sign. Up- and downstream huge rocks made even foot travel difficult; while the steep, brush-tangled canyon walls were quite impassable.

We did not tarry long at this mysterious wreck, but hurried down towards the valley which somehow we all felt held the key to the whole thing.

I don't suppose the dry creek bed was more than ten or twelve miles in length at the most, but to us it seemed endless. We proceeded with great caution—a needless thing, as the dense woods were screen enough, but our imaginations were running wide open by this time and every tree was a potential abode for some monster.

About noon the ridges on either side dropped away, and the rocky stream lost itself in an open forest of semi-tropical trees. We made our way through this more carefully for perhaps an hour and a half, when the forest abruptly ended. Beyond lay broad cultivated fields, roads, buildings, the monorail track, while southward the towering white buildings of a city shone in the sun. We all stopped; but somehow we were not very surprised. The steel trestle had prepared us for such a sight.

Lord Hanavan looked long with his binoculars and then passed them to the rest of us. We each had a look. The city, through the lenses, could be seen quite plainly—a dark mass of residences measuring a good fifteen miles wide lay in the foreground, while beyond arose a series of flat-roofed structures, some with tall spires, which appeared to be of immense height. A slight haze hung over the buildings, and the faint echo of human life reached us.

AFTER some moments we brought our attention to the present again. Lord Hanavan was speaking:

"By Jove!" he exclaimed, "but won't the people back home at the Academy be surprised when they find a place like this in British territory. A forgotten colony of exiled

Egyptians, building up a city in the wilderness, unknown to anyone! And, I suppose, forgetting that there is an outside world. What a story! Milroy, old boy, you will have to brush up on your Latin and Greek if we are to talk to them. What a tale we will have to tell when we go back!"

Prof. Milroy interrupted him: "*If* we go back! What became of those other expeditions that came down here years ago and never returned? These people may not be so willing to be discovered."

After some consultation we decided to remain within the forest until nightfall and then make a rush for what appeared to be an orchard some ten miles closer to the city. During the rest of the day we cleaned our rifles, Prof. Milroy wrote in his diary and Cummings, with the camera, climbed to the top of a tree and took several pictures.

After the seemingly endless afternoon was at last over, and the sunset colors were fading from the snowy pinnacle beyond the city, we shouldered our equipment and started across the fields. A half mile out was a flat-roofed house which we avoided. Whatever crop was grown in the fields had not yet sprouted, so we soon found ourselves absolutely without shelter. The roads, one of which we crossed, were of some kind of bluish concrete, with gutters at either side and not the slightest trace of the roadside weeds so common in Europe and America. Everywhere we saw signs of the most intense cultivation. Whatever kind of people lived here were evidently cultured. About one a.m. we reached the copse which was our destination. The moon was dark and the presence of occasional clouds made the terrain almost invisible. The city shone with a blaze of light, which could mean only one thing—electricity. Far to the southwest low-hanging clouds glowed as though another city lay in that direction.

Our excitement which had been growing all the time, was now near a "bursting point." As I pressed close to Dr. Cummings for a moment I felt him shivering, and doubtless I was in the same nervous state. Lord Hanavan was more calm. After examining the trees for a moment he said, "We are in some kind of an orchard."

"Grapefruit," furnished Prof. Pfeiffler, a leaf in his hand. "A grapefruit grove which is evidently part of a farm. If ve are here ven daylight comes some one will be sure to discofer us. Den . . . remember the expedition uf 1914. De only vay iss, I tink, to go to de nearest house und either secrede ourselves vere ve can see und overhear de inhabitants, or seize a building und make ids beobles prisoners."

Hanavan nodded and added, "Action in any case is imperative."

Prof. Milroy stared about through the glasses. "I think we might try that building." He pointed.

Picking up our rifles and packs the five of us left the grove and proceeded at a brisk walk toward the city. None spoke. We crossed another smoothly-surfaced road and then the outlines of the house loomed before us. It was low and flat-roofed and with what appeared to be an oval dome of glass in the center. The windows, small and high up on the wall, were all dark.

With infinite caution we approached the wall, stepping over the ornamental shrubbery in the front and treading softly on the cement-like walk which led to the door. The modern appearance of everything struck me oddly. Somehow we seemed more like five burglars on a lawn in the United States than a party of explorers stalking the dwelling of a bloodthirsty savage in Africa.

But now Lord Hanavan was at the door. A solid panel of blue color without knob or keyhole. Hanavan's hands slipped over it an instant and then discovered a small countersunk ring. He tugged but the door held. Quitting the porch we essayed a window. Climbing upon Hanavan's back Prof. Milroy poked and pulled, then he signaled to be lowered. "No good. Absolutely burglar-proof. Let us try the back." We turned past the front door toward the rear of the house when, without warning, the panel swung open and a blaze of light fell upon us.

A tall man wearing a blue tunic-like garment stepped off the porch, peering at us. He carried a curious little metal instrument in his right hand. Walking toward him, hand on holster, Milroy spoke in Latin.

"We are weary travelers from a far land seeking the hospitality . . ."

The man appeared suddenly galvanized. He raised the metal device toward us and poured out a torrent of words in some strange language. Lord Hanavan approached him, but the man moved his hand toward him and spoke one or two words in a threatening tone. Hanavan stopped. "He has some kind of a weapon. Gun, maybe." He paused. "Cummings, see if you can get behind him and grab his arm . . ."

Prof. Milroy now stepped into the circle of radiance beside Lord Hanavan and began to address the man in the blue robe in Egyptian. At the same time Dr. Cummings began to fade out into the shadows. Pfeiffler and I stood motionless, at a loss as to what to do. Several tense moments passed, while Milroy ran on with his conversation. The other appeared nervous and impatient. His attention wandered and twice he started to speak, only to be cut short by Milroy. Then out of the corner of my eye I detected Dr. Cummings gliding among the shrubs behind the man. Step by step he advanced. With a sort of fascination I noted him gather himself together and then silently rush forward. One hand seized the man's right arm, jerking it downward, while the other closed about his throat stifling any outcry. In a second they were rolling about the lawn, and then Cumming's opponent went limp. The geologist regained his feet. "Hurt?" demanded Lord Hanavan.

"No, hasn't any strength at all. He just caved in."

SUDDENLY we became conscious of an imminent danger from the light. Dragging the senseless man after us we entered the house, Hanavan closing the door. There seemed to be no switch to extinguish the floodlights outside.

The interior was dimly lit with a blue-green radiance which seemed to emanate from the upper building. Hanavan and Milroy carrying their burden, we entered a large room—the one under the glass dome. It was plainly furnished, the space under the high windows being filled with built-in benches, desks and shelves. The floor was of a soft, yielding substance, like a thick sheet of rubber, and of a dark blue color.

But we had no time to examine details. No sooner had we entered than our prisoner recovered consciousness. We expected a struggle, but the man in the blue robe made none. Prof. Milroy covering him with an automatic, he was suffered to arise. Then Lord Hanavan again addressed him in Latin. The man replied, apparently intelligently, to Hanavan. Afterwards Hanavan told us what the conversation was about. He asked the man if he was an Egyptian.

"No . . .Zongainian."

"How many people live here?"

"Many. You are from Europe?"

"Yes."

Hanavan tried to conceal his amazement. "We have come to deliver an important message to your king."

At this the one in the blue robe laughed, and then apparently overcome by a dizziness caused by Hanavan's attack, staggered, barely catching himself upon the wall. He remained there for a moment, leaning upon one of the panels, and then walked toward us. Addressing himself to Lord Hanavan he spoke in a clear loud voice:

"People from Europe, explorers from the outer world who have made me a prisoner, listen to Ver Vilot. It has been many years since any of your race has penetrated through the jungles over the great barrier cliffs to Zongainia. They who enter Zongainia cannot leave, for if they did the whole outer world would enter our happy land. The curious, the dishonest, the diseased—and soon our cities would be desolate, our culture destroyed and our beautiful country as wretched as Europe itself.

"For twenty long centuries we have lived isolated and happy, protected by the barriers of nature and our own vigilance. Once we did have commerce with your people and Persians, Egyptians and Phœnicians rubbed shoulders in our cities. But they brought vice and corruption and El Zoia forbade their coming any more. So the highways to the sea were closed; a river was diverted to turn the only route to Zongainia into a swamp and the men of the outer world remembered it only as a legend called, I think, in Europe—Ophir."

He paused and appeared to listen. Then he broke out afresh in a very loud voice. "Men of the outer world, you have penetrated beyond the forbidden barriers. You have passed the point where you may return. You have made me prisoner." Again he hesitated. "But soon it will be different and you will be . . ."

He stopped, and at that instant the door burst open and a dozen men attired in short robes and carrying the little metal weapons rushed into the room. We grabbed at our guns but there was no chance. In a moment they had surrounded us and with a surprising thoroughness stripped us of guns and knives.

The man who had but a moment before been in our power addressed a few words to the leader of the newcomers, who nodded in answer. We looked to Prof. Milroy, but he only shook his head. Then the one called Ver Vilot walked to the door while our captors indicated that we should do likewise. Outside were perhaps a score more men, standing in front of a large boat-like metallic structure which had not been there before. Sounds of conversation stopped as we appeared; they crowded forward to view us. Near the door we paused for a moment while "Blue Robe" and the leader of the new party conversed a moment. When Lord Hanavan called "Ver Vilot," that person instantly turned toward him.

"What are they going to do with us?"

"You are going . . . to Andorks."

"Then . . ."

"You will find out." He turned away. "One thing more. How did you summon these people." The other paused, and then stumbling on the unusual use of the ancient Latin tongue said, "The long-distance talk-by-lightning on the wall. I turned it on when I seemed to be faint . . ."

The next instant our captor shoved us toward the metal car where a doorway gaped. Ver Vilot disappeared among the other figures, and then with a sickening rush the cylinder shot up into the night sky and the earth dropped out of sight below.

CHAPTER V.

At Andorks

THE disappearance of the earth as our captors' strange airship arose into the midnight sky, marked a dividing point in our adventures. Heretofore we had made our way forward against natural obstacles, progressing through our own efforts. But now we were in the hands of Fate, as it were, and our actions were almost altogether directed by others. But I digress.

For perhaps fifteen minutes the airship—I continue to call it that, although subsequent experiences showed it to be utterly different from what we ordinarily consider such—shot dizzily through the sky at a high velocity. Our captors who numbered about twenty, spoke no word to us. They sat in seats around the sides of the cabin and talked among themselves. We stood, or rather huddled in one corner, not even daring to look out the portholes. The cabin was quite dark, save for a dim glow over what were evidently navigating instruments.

After a quarter of an hour or thereabouts the ship began to drop earthward like a plummet. There was no gliding about it. Our bodies literally arose from the floor as the car fell from under us. I seized Prof. Pfeiffler desperately and then the machine came to a stop. Tumbling in a heap on the floor we lay for some moments afraid to move lest we find all our limbs shattered. However, the Zongainians did not seem inconvenienced, for they arose and helping my companions and myself to our feet quite kindly, filed out of the now open door. We followed.

The airship rested upon a series of metal rods and rollers, on what appeared to be a large paved field. A pair of floodlights at some distance threw everything into sharp relief, making long grotesque shadows. A pulsating rumble like a vast buried machine was faintly audible.

Still surrounded by the Zongainians, we were marched across the illuminated area under the lights and along one side of a wall. From the other side of this came an odd confusion of sounds, thumpings, musical gong-like tones and a prolonged hissing, not unlike the noise made by certain kinds of automobile tires on a wet pavement.

Suddenly we came to a stairs. Feeling clumsily in the dark we ascended to the top of the wall. Involuntarily I looked over and then recoiled. We were on the roof of a gigantic building, of which the "wall" was but the cornice. Down, down the eye dropped into a canyon-like street whose bottom was lost in a maze of moving lights and a confusion of strange shapes. On the other side loomed the facade of another building, its thousands of windows glowing with a pearly light.

I looked downward again and then the guard behind gave me a shove and I was forced to stumble down another stairs. My head whirling with the brief glimpse into that glowing immensity, I walked mechanically down a ramp underneath the roof level and shortly after entered a lighted hallway. It was bare of carpet or other ornamentation. The illumination of a soft bluish-white color emanated from behind the mouldings. I heard Lord Hanavan murmur something about "a Geissler tube."

Fifty feet down the hall we were halted. In one wall was a round opening some four feet across and about a yard from the floor. On a rack to one side hung a number of metal objects, somewhat like overgrown plasterers' trowels. Taking one of these, the leader of the party fitted its blade into a groove in the bottom of the hole and leaping lightly astride of it, vanished. Without a word the other did the same. I stepped nearer, peering. It was

like one of those package chutes used in department stores; highly polished, egg-shaped in cross-section and dropping down at an angle of 70 degrees. A narrow groove lay in its bottom. Involuntarily I drew back, when one of the Zongainians grabbed my arm and putting one of the "trowels" in my hand shoved me towards the orifice. I struggled. "No," I cried, "No, no . . . I can't!"

The man seemed surprised and started to explain. Shoving the blade of the thing into the slot, with the aid of another, he forced me to sit on the lip of the chute, feet pointing downward, and grasping the handle between my legs. Making a gesture illustrative of hanging on, the Zongainian gave a push and off I went.

For ten seconds I experienced as real a terror as I ever hope to feel in this life. Down I shot at an incredible velocity, clinging desperately to the handle of the guide. All was black, and the wind whistled past effectively preventing any outcry. I rocked dizzily back and forth and finally turned completely around and rushed down headfirst.

Then suddenly I shot out of the tube, near the ceiling of a vast lighted room . . . dropped down a long trough and, as the guider began to slow down because of some automatic braking force, I let go completely and slid across a flat table into the arms of a dozen Zongainians. Not even bothering to pick me up, they hauled me from the slide. They were not a moment too soon, for the next instant Prof. Pfeiffler came out of the hole in the ceiling, down the chute and squarely into the "reception committee," which he knocked to the floor with the violence of his impact. Twenty feet behind came the handle of the guider. Pitching my poor friend out of the danger zone they gathered themselves for the next arrival. It was Lord Hanavan, who, with drawn and pallid features, clung manfully to the handle of the guide and consequently decelerated smoothly within fifteen feet of the end of the slide. Cummings and Prof. Milroy came next, both sliding freely many feet in advance of the guide.

AS soon as they were safely picked up by the "reception committee," who suffered many black and blue spots, the remainder of our party descended, gripping the guides easily, and stopping with an enviable grace. It was our first experience with the Zongainian chutes which, so we found, were used universally for descending in the big buildings.

The chamber in which the chute ended was roughly sixty feet square and half as high. Perhaps twenty doors opened onto it from all four sides and, in and out of these, people were constantly passing. By the side of each door was a shiny black panel, covered with rows of lettering in white—a lettering which I quickly recognized to be similar to that of the platinum coins.

The floor was of the same dark blue yielding substance that we had found in the house. Walls and ceilings were of polished metal plates, inlaid with black enamel in a remarkably beautiful geometric design.

We had, however, little time to examine the architectural beauties of the place, for our captors hurriedly escorted us through one of the doors and down a long passage. Once or twice we passed people—tall, slender men and women, dressed alike in a short tunic, and wearing flexible sandals. Many of them turned and stared at us, but at a word from one of our party, they laughed and went on their way. Prof. Milroy listened intently to everything that was said and he told us that he caught many words related to Latin, Persian and Egyptian.

"But the grammar," he confided in a whisper, "the grammar is beyond me—absolutely beyond me."

During this time we were conducted along a series of passages more or less filled with people, until finally w arrived at a place very suggestive of the booking offi of a prison. A man, dressed in a blue tunic with a big orange cape over his shoulders, sat behind a counter mad of what appeared to be blue bakelite. Several compl cated instruments were arranged before him to whic he gave much attention.

Upon our arrival, however, he arose to his feet and a dressed the leader of the party in an excited voice. Th person responded at some length making frequent ge tures toward us and using the words, "Europe, Englan Deutschland." When he was done the other addresse us in Latin.

"I am sorry that you made the mistake of coming her We of Zongainia wish to remain unknown, so it becom necessary—unfortunately necessary—to confine by for all who cross our borders. You will not be ill-treate but for the best interests of the country you will not b allowed to return. Have you anything you wish to say?

The last phrase sounded unpleasantly like the word spoken to a condemned man before sentence is passe Lord Hanavan now took our case as spokesman.

"Yes, I have a great deal to say. We are a scientif expedition, exploring for the interests of civilization. W cannot understand your desire for seclusion, your countr would be benefitted immensely by commerce with th civilized countries of the world. You must still imagin that Roman legions hold mankind in subjection. Th world has changed a great deal since that day. Peopl outside of Zongainia fly through the air, they have con quered the oceans, the poles . . ."

The man in the cape interrupted him. "A list of th virtues of your race is unnecessary. If you wish to sa anything relative to your confinement here . . ."

"Well," replied Lord Hanavan with dignity, "all I ca do is to protest against the uncivilized manner in whic we have been seized and imprisoned for no offense sav that of unwittingly entering your country."

"I wonder," said the other musingly, "what punishmen your country metes out to housebreakers? If yo feel disposed to argue the case you will have ample op portunity to do so when El Zoia sees you, as he doub less will. As for now . . ."

He relapsed into his native tongue, evidently givin some sort of instructions. A few moments later we wer escorted out by another door, up a ramp and into a sma room where we were bidden good-night.

The instant the door had closed we all began to searc for some way out, but the place was proof against u Save for the door the walls were unbroken by any ape ture. Their surfaces of a bronze sheet-metal, sounde solid when pounded. A number of built-in benches, u holstered with a thick rubbery mat of dark blue, const tuted the furniture. Illumination came from a singl long, glowing glass tube in a groove above the mouldin After much wall-tapping, Prof. Pfeiffler located a strea of warm air entering from a number of small openin hidden in a design near the floor. At least we would n suffocate. But there our search ended. Sitting in a d jected group on the benches in the corner, we eyed o another.

"Well, here is the end of this expedition," remark Prof. Milroy finally. "Tomorrow our bearers may sta back with the same old story—'walked off into the jung and never came back.' Just like the expedition of 19 . . . I wonder where they are?"

"EITHER here . . . or dead," replied Hanavan. "I su pose they will send out a search party."

"Maybe. But if they do find the crevasse up the cli

they will be captured as soon as they arrive. It is against human nature to turn back after only a sight of a land like this."

"But," interposed Lord Hanavan in a more cheerful tone, "don't you think it is worth the little inconvenience to find a country like this Zongainia? It is the archæological find of the age! Even if we never escape we will finish our lives in such a place as man never dreamed existed. Did you see that street and the airship? I believe they are ahead of us in some respects."

"I neffer saw buildings like dot oudside of Noo York," added Pfeiffler, "und dot slide!" He shuddered. "I wonder how long dis coundry hass been here?"

"Since Roman times at least, two thousand years—maybe three . . . can't tell," murmured Hanavan. "I say," he yawned, "did you notice if that airship had wings? Folded up . . . perhaps . . ."

There was a pause. I felt very drowsy. Somehow our conversation seemed to run out although there was plenty to talk about. I observed with a sort of mild surprise that Prof. Pfeiffler was slumped backward, snoring.

"Who is this 'El Zoia' they were talking about? A king or something?" I yawned . . . "Feel sleepy . . ."

"I wonder what the population is . . ." started Dr. Cummings, and then I slipped backward onto the couch. For an instant my eyes remained open; I glimpsed Hanavan rubbing his eyes hard and Milroy leaning heavily on Prof. Pfeiffler, and then the world went black. I sank into a deep and dreamless slumber.

Consciousness returned to me through the violent shaking of my person by Dr. Cummings.

"Wake up!" he cried, "It's morning."

"Is it?" I replied sleepily, looking about. The room was exactly as it had been before, the soft glow of the Geissler tubes filling it.

"It is eight-thirty, if our watches are correct," added Lord Hanavan. "We must have been drugged last night through the ventilator."

Milroy commenced to speak when, without warning, the door opened and three men entered. Two carried covered dishes.

"Be ready to leave within one-fourth of an hour," said one of them. Leaving the dishes they departed.

"Breakfast," announced Cummings, looking into a covered platter.

The meal consisted of a sort of jelly tasting somewhat like bouillon, and a cold liquid with an invigorating effect whose flavor resembled that of sauerkraut juice. However odd the food was, we fell to and by the time the quarter-hour was up were ready for whatever was to come.

At precisely the fifteenth minute the door opened and we were bidden to march. We were escorted through the office where we had been the night before, into an elevator which ascended a great distance, and finally out onto the roof again.

By day the city was an imposing sight. Great flat-roofed buildings covering many acres each and rising sixty stories from the ground, stretched miles in every direction. Tall trees grew on the roofs, and we could see people walking about on shaded lawns.

On top of our building there were no roof gardens. The space was taken by a number of great steel cradles like the ways of a shipyard. In one of these rested the airship of last night; by daylight we could examine it more closely.

Imagine a submarine without the conning tower, some eighty feet long. Imagine it lined with portholes and with big square windows in front—of a light grayish color and with stout runners underneath—and you have a picture of a Zongainian airship or *prolo*, as they are called there. Of wings or propellers we saw not a sign; their method of propulsion is based upon an entirely different principle, that of the little known action of high frequency current upon certain kinds of crystals.

Later we were to learn much more about these wonderful *prolos*, but just now time pressed—at least it pressed our conductors for they hustled us into the open door of the craft at once, followed us in and made it fast.

One took his place in a seat at the front windows, made a number of adjustments with dials and levers, and the next instant we silently left the steel ways and sailed into the morning air.

If the city had been impressive from the ground it was marvelous from above. Through the crystal-clear atmosphere we could see its streets extending mile after mile, up to the very foot of the mountain now hidden in mist. To the north the range we had crossed yesterday blocked the view, but southwest another wonder was unfolding itself.

As we arose I glimpsed over a buttress of the mountain, a wide expanse of blue water, a lake, and on its west edge directly opposite the peak another city.

But such a city! Seen through the haze of some seventy miles we did not at first grasp its full immensity. We could not realize that that dark mass of buildings extended thirty miles along the lake and the buildings in the center—how could we know that their spires soared a half mile into the sky!

CHAPTER VI

An Astonishing Fact

NUDGING one of the crew I pointed in mute questioning at the vast scene now lying eight thousand feet below. His eyes lighted with something like pride and he replied "Imperium."

For some twenty minutes the flying machine steadily approached the city. It did not descend at all until almost directly above the first ranks of tall buildings. Then with a hair-raising swoop the car shot vertically downward. Our destination seemed to be an immense tower rising far above the other roofs into the air.

For miles in every direction the ground was covered with giant buildings, separated by long glass roofs like a green house. Under these, as we learned later, lay the streets. Beyond the "business section," straight avenues radiated in all directions, lined with smaller houses whose individual construction could not be discerned. In the aggregate they suggested a green plain strewn with colored pebbles.

But now our descent brought the tower and its surroundings to the center of attention. It was situated on a wide half-circle of park, possibly a half-mile across and about two miles from the lake. The tower was of an almost pure white stone, artificial we found, whose top ended in a series of green rounded domes and roofs.

To the very tip of this structure went the *prolo*. What appeared to be the end of a spire turned out to be a roof space, roughly a hundred feet square and partly occupied by another of the landing ways. The airship landed without a bump and the next instant we were all piling out. A dozen or so people hurried out from the enclosed upper end of a ramp to greet us, or rather to greet our captors. Much conversation ensued, plainly about us, for many looks and gestures were made in our direction. Prof. Milroy listened intently and in the pause before we were taken down into the building gave a report on what he understood.

"I could almost believe," said he, "that they speak two

languages. Part of the time I can follow quite well, and then they will break into a patois which has not a familiar word. But here is what they just said: Our escort wants to know 'Is El Zoia here.' Answer, 'Yes.' 'He has been told?' About us, I suppose. 'Yes.' And he will do something to us this afternoon. Used a verb I couldn't get. All the rest was a curious mixture of Latin and other tongues. Then our escort wanted to know where we were to be kept. 'Here until they have seen El Zoia—then take them to the Kont-se-el-heligz,' whatever that may be, 'until further orders.' So unless the Kont-se-el-heligz is the morgue we seem to have no cause for worry."

At this juncture further conversation was stopped by the Zongainians who, by various gestures and words in their tongue, indicated that we were to go below.

The interior of the immense tower was quite similar to the various apartments and halls we had been through. I looked forward with a quaking sensation to another chute, and resolved to die rather than descend the immense distance to the earth.

However, though we passed a number of these ominous round apertures in the walls, nothing more dangerous occured than the descent of about four floors by gently sloping ramps.*

At the bottom of the last incline we were led under a wide arch, and through a sort of reception hall to another high-ceilinged room. Here a man behind a dark blue counter was addressed, whereupon he turned to an instrument and spoke at some length. Prof. Milroy listened but appeared, by his general expression, to comprehend little.

Our guide listened respectfully and then ordered us to the side wall, where a low bench lay beneath the windows. Seating ourselves we waited. Milroy, without being asked, translated for us.

"He—the one who brought us—wants to know if somebody called 'Ver Menisto' is occupied. The gentleman at the desk, who, so I gather, is a kind of secretary, telephones in that other dialect and then tells our friend to wait some length of time. He said 'a deck'—whatever that may be."

Lord Hanavan occupied himself in staring out of the window. We had a marvelous view towards the east over the lake. Some forty-five miles away the mountains uprose on its farther shore. Through rifts in the clouds I could make out buildings of no mean size upon their flanks. The near view was obstructed by the wide sill of the window. Down by the lake shore the ranks of sky-

(Illustration by Paul)

And such creatures they were. Looking at them one had a sensation of flabby bonelessness.

*As we afterwards discovered, the stairway is hardly ever found in Zongainia.

scrapers made a solid cliff overlooking a long park.

Dr. Cummings, glancing nervously about, unslung his camera which he had been allowed to keep after the search for weapons.

"I wonder," he murmured, "if they would object . . ." He started to sight through the finder when we were startled by a deep melodious voice speaking *English!*

"Don't waste films on that, I will give you a photograph."

TURNING toward the voice, we beheld, standing in the now open door to the inner room, a tall dark-haired man in a brilliant blue cape. Amazed as we were by his command of English, I could not fail to note a peculiar distinction, a sort of nobility of appearance that set him apart at once from every other person we had seen. His smooth-shaven face had the stamp of character upon it that cannot be described in terms of features. His eyes, of a steely gray, bore the command of an imperator and the understanding of a philosopher. Instinctively I knew that he was the ruler of the country, the El Zoia we had heard mentioned so often. Lord Hanavan and the others must have realized this also, for we all arose to our feet with one accord. For an instant we stood thus. Then our conductor, much embarassed, addressed himself to the man at the door.

El Zoia listened and then dismissed him. Addressing himself to us he spoke: "Come into the other room." We did so; the door closed of its own accord behind Prof. Pfeiffler, who was last. The other seated himself behind one of the desks and indicated that we do likewise. Then he began:

"May I ask your names, gentlemen?"

He listened quietly to the introductions, saying after they were done, "I have your paper on the Cretan inscriptions, Lord Hanavan. You are to be congratulated upon its accuracy." Then, "Well, gentlemen, you are, I suppose, searching for a trace of the Lloyd-Turnbull Expedition of 1914?"

His manner was so casual, so utterly unbecoming to our position and the adventures we had been through, that it was difficult to think we were not back in some club room in London.

Lord Hanavan, as the spokesman of our party, entered into a detailed account of his discoveries at Philæ, the manuscript we had found in Cairo, and the journey up the river. He left out, of course, any mention of the returning bearers.

The man in the blue cape, somehow the title "king" seemed too plebeian for him, listened with great interest until our friend was through. Then he spoke:

"Isn't it too bad that people have such a curiosity complex? If you had written another paper on those coins and that sherd instead of coming up the river, you might now be back receiving honors at the Royal Society. But, well, you English live on adventure, so perhaps it is well." He paused, leaning back in his chair.

"I suppose you have had something told you about this country—Zongainia. And of course you have drawn plenty of conclusions. I won't enter into our history or anything else concerning the land now save to say that Zongainia has existed here in the state more or less as you see it now, for almost two thousand years. Since that Roman expedition you read about, not a rumor of our country has reached the rest of the world. Natural barriers augmented by our own construction have for eighteen centuries prevented traders and explorers from carrying tales. We keep track of things outside. Of course," he paused, "one of the most fashionable men-about-London is our Ambassador to England. He sends newspapers weekly. All the most interesting books, magazines and music. Everything to keep me up with the world. I," he smiled, "have been in London several times."

Lord Hanavan put in a question. "We have been told," said he, "that we are not to be allowed to return. Is this true?"

El Zoia shook his head sympathetically. "Unfortunately, it is. Once you enter Zongainia the policy of our country demands that you never leave. The expedition of 1914 and its relief party are both living and well, but they shall never go back. We have one old man, a French explorer who entered Zongainia from the west forty years ago; I talked with him in this room. Another, a Spaniard, who died a decade ago, came up from Lake Rudolph through the swamps in 1868. A well-educated young man, he taught me a great deal of Spanish."

The ruler appeared so genuinely sorry that Lord Hanavan seemed to see some ray of hope. Arising to his feet he cried:

"But why do you want to keep this seclusion? Why must this country remain hidden? These cities inactive? When you could, by a word, have the commerce of all the planet pouring in? You could become a world power! You could share your scientific achievements with the other nations instead of selfishly concealing them. Why do your people hide in this little valley when the whole wide earth would welcome them . . ."

The man in the blue cape interrupted. He appeared bored, as though reciting an oft-repeated formula.

"Zongainia could not exist that way. If we made ourselves known Imperium would soon swarm with tourists, with criminals, with sick people. We would become involved in diplomatic squabbles, wars—you forget, Lord Hanavan, that Zongainia lies mostly on 'British soil.' Our money standard is platinum. The cheapness of gold here would precipitate a financial disaster. Our people are not the same as yours. Our food is utterly different. A banquet such as you would sit down to with enjoyment would kill me. Your vice and corruption would seem to us like the filth and squalor of a Bushman family. We have abolished pests; stamped out disease. If your world were turned loose in Zongainia plagues would sweep the land and the city of Imperium would become but a place of mourning." Pausing for an instant he stepped to the window and threw it open.

"You speak of commerce, Lord Hanavan, you speak of the wide horizons of world trade. You deplore our isolation—*look!*"

Crowding forward, we peered skyward to where he pointed. For a moment I was blinded. Then I made out, high in the blue, the shape of a flying machine. At first it seemed tiny but as it dropped I saw rows upon rows of windows, windows whose smallness brought out the craft's huge proportions. Lower it swept, now it paused above the roof tops. Hanavan gave a gasp of awe. "It's—it's a half-mile long!" Gently the immense bulk of the vessel vanished behind the buildings. When it was gone, El Zoia turned to us and said "That is the *Alf-Nueri*—it is bringing twenty thousand passengers from the star you call Alpha Centauri. You see, we are not very confined."

CHAPTER VII

Exiled!

EVENTS have a habit of coming so thick and fast that one cannot react fully to them until hours later. After our interview with the ruler—his title, so we learned, was

"Presonio," meaning first judge—the five of us were conducted to the Kont-se-el-Heligz. It was located, so I believe, in a building removed a mile or so from the great tower. We were conducted thither by an underground pneumatic tube at a great velocity.

I recall an ascent of some length in an elevator and a walk down a long hall, terminating in another living chamber. Our guide said something in Zongainian, closed the door, and we were once again alone. Then our pent-up feelings burst out like a flood.

For fifteen minutes we fired wild unanswered questions at each other. We were completely carried away upon a spate of new ideas and new conceptions. We had come prepared to find a semi-civilized race of exiles living in ignorant isolation. We found—

"It seems," cried Lord Hanavan, "that we are the isolated ones! Man, they've solved the problem of interstellar travel—Alpha Centauri! Why they must be having commerce with the whole universe! They are a part of a cosmic league while we are still limited to our own little earthly horizons! To think of finding this in the twentieth century!"

"How long have they been doing it?" interrupted Milroy. "The Romans said nothing about flying ships or moving stars . . ."

"And the size of this city . . . Imperium, do they call it? There must be millions living here . . . scores of millions!" added Cummings.

"Exterminated insects . . . disease, *Mein Gott!* Dey must be subermens," put in Prof. Pfeiffler.

Now our conversation swung to the subject of the man we had so recently talked with. Somehow he seemed to be the center of everything here. The network of streets radiating from his tower; the easily comprehended title of El Zoia, apparently unofficial for he was not addressed thus, all pointed to him as the commanding genius at the controls. His personality would have impressed us anywhere, but here it was actually awe-inspiring. Prof. Milroy who had conversed somewhat with our guide on the way, explained that his real name was Ver Zanaos Menisto.

"The 'Ver' part," he added, "seems a sort of title like Esquire or Mister—I was trying to associate it with some Egyptian name roots, but I can't place it at all. I don't believe he is of Egyptian descent even. His frame appears decidedly Nordic, and his gray eyes aren't Roman or Egyptian . . ." He rambled off as was his habit when against a blank wall. Conversation dragged, repeated itself. Oddly enough no one thought of escaping. I believe that if the walls had been cleft for us to walk out free, we would have remained. Our "curiosity complex" was too strong.

Well, we passed the night and a good part of the next day in the little room. Two meals were brought—of gelatine, a sort of salad made of fruit chopped fine, and the bitter yellow drink. Then along toward night, according to our watches, the door opened to admit two men bearing between them a complicated-looking machine. Another Zongainian, a woman, followed them and proceeded to make some adjustments upon the machine. Then the first two left and the woman addressed us in English.

"I have been sent from the Bureau of Instruction to give you a general plan of our country, its history, and of the universe which surrounds us."

Turning again to the apparatus she started a small motor, put out the lights of the room and the next instant upon a panel in front of the device a picture, colorful, moving, and stereoscopic, appeared. The lady proceeded to explain in a matter-of-fact voice as the pictures changed, while we five representatives of the outer world sat hunched in the dark and listened like little children.

It is impossible to go into that history in detail for much of it has slipped my mind and it has little bearing upon our subsequent adventures. Little talk was necessary from our instructor. The moving pictures, some of them twelve thousand years old, told the story better than any words.

Many years ago—thousands of years—the moon, satellite of the Earth, had had an atmosphere, seas and rivers, life, people. Its chemical composition, explained the lady, being identical with that of the Earth, produced the same forms of life, while their environment influenced by the same sun and atmosphere, directed the long processes of evolution, even as they were being directed a quarter-million miles away upon the Earth. A great race of men grew upon the moon who called themselves Metyrs.

Their cities of massive stone housed untold millions of people. For centuries they lived in peace and security, enjoying the fruits of a hundred-thousand-year-old culture. But then came disaster. It struck first fifteen thousand years ago in the form of a great swarm of meteors which pierced the moon's thin atmosphere easily. One entire hemisphere of Metyr was laid waste and nine-tenths of her people killed.

As time passed the survivors gradually built up another civilization—this time on the other side of the planet. But in the year 65 B.C. the moon was shaken by frightful earthquakes. Immense underground caverns containing a partial vacuum were opened and into these the atmosphere commenced to pour. The doomed Metyrs made desperate attempts to save themselves, and in a year managed to send a hundred and twenty thousand people to the Earth in a huge, winged rocket ship which glided to a safe landing when it touched the Earth's atmosphere.

TWELVE ships left the moon and then fresh earthquakes took the last vestige of air, leaving the planet what it is now, frigid by night and torrid by day.

On the Earth the refugees gathered at a lake in Central Africa where the altitude thinned the air to an amount bearable to their lungs, and there they built up again the culture of their fathers and kept alive the ancient ideals of the Metyrs.

At first the other peoples of the world were courted, but their crudity and barbarism soon turned the cultured Metyrs against them. In the year 50 A.D., a battle was fought in which the Metyrs drove back the legions of Persia and Rome and destroyed the highway to the sea. A river was diverted that its waters might turn the route into an impassable swamp. In the year 91 A.D., a last attempt was made by the Romans to conquer Zongainia, but the use of explosives drove the enemy back.

The Metyrs now set about the immense task of civilizing the six million Egyptians, Romans and Phœnicians in their midst. It was a task for generations, but the superior culture of the Metyrs ultimately won. The centuries passed; gradually Zongainia grew and gradually the need for commerce with other nations increased. It was then, in the year 1200 A.D., that the first electric flying machines were made, and by their magical agency a market vaster than a thousand worlds was opened up—the Universe.

"And since," concluded our teacher, "you see the results."

We were given opportunity to ask questions after this, and through them we learned a number of other rather astounding facts which our lady had taken so much for granted as to forget. Prof. Milroy's suspicion of a second tongue was confirmed.

"You see," she said, "the Metyrs had a tongue of their own but it was much too complicated for the savage peoples of the Earth, and as a result a second simple language was developed partly from the Metyr, but mostly from Latin and Egyptian. It is this language which has puzzled you so much by its use of familiar words."

In answering a question of Dr. Cummings, she casually mentioned that in the year 1230 (our calender) El Zoia landed the first space ship upon the planet Venus.

"What's that?" cried Lord Hanavan. "What do you mean?"

"Why, El Zoia—Ver Zanaos Menisto, of course. You saw him yesterday."

"But 1230—that's over seven hundred years ago—how could . . ."

Suddenly a light seemed to dawn upon her. She laughed and then explained. "El Zoia is not a Voyian—an Earthman. He is a pure-blood Metyr. The life span of a Metyr is much greater than that of one of you. They sometimes live as long as 2500 years—I am four hundred and sixty years old now. We think it was caused by the lesser gravity of the moon, or the admittance of some ray that Voya's—pardon me, the Earth's—atmosphere is too thick to pass. There are many people alive now who were born long before your Christian era began. It is that longevity that has enabled them to assimilate the vast horde of barbarians that was thrown upon them."

"How old," said Lord Hanavan, "is El Zoia?"

"He was two thousand and thirty-three years old on—" she paused as though making some mental computation, "on the first of July—he was born, you see," she added, "in one hundred and two B.C."

After answering a few more questions the young lady, who was four hundred and sixty years old, packed up her machine and went, leaving us to cogitate upon all that we had seen and heard.

With the coming of the next day we were all escorted from our rooms into the presence of a business-like person who spoke English with a peculiar accent—more like an Irish brogue than anything else, and who handled us as impersonally as though we were pieces of freight.

"You are," he informed us, "to be sent to Dunsaan immediately. You will find comforts and fellow-country men there. You will leave this evening. In the meantime, you may go to the roof gardens if you wish."

Guards stepped up and before we could put in a word we were in an elevator bound upward. Well, it was a relief to know that we were to see the sunshine again.

The afternoon was spent in a tropical garden with the great city spread about on three sides and the magnificent panorama of lake and mountain on the other. A mile to the north, the white shaft of the tower shot skyward. We attempted to count its floors but as all got different results we gave it up.

Then we fell to discussing our case and wondering where we were going. For lack of a better explanation, we concluded that Dunsaan must be another city or a prison. We leaned toward the former supposition, mainly because of a repugnance to finishing our days in the latter. We wondered if they had prisons in Zongainia; it seemed so Utopian, so like dreams of the future of our own civilization. Lord Hanavan became reminiscent and compared the splendor of Imperium to London. He seemed much impressed by the absence of smoke or dust . . .

UPON a suggestion from Cummings, we climbed over the edge of the garden to where the glass roof of the street curved fifty feet upwards. There we spent a fascinated hour watching the traffic, a thousand feet below. With Hanavan's glasses we could make out multitudes of enclosed three-wheeled vehicles, their drivers sitting where the engine is found in autos, whirring along like big distorted insects. Prof. Pfeiffler conducted a careful examination of the cultivated palms and grasses of the garden, furtively pocketing numerous specimens when he thought we were unobserved . . .

Early in the afternoon we were brought food and drink by an attendant who refused to say a word. We ate in silence . . . Lord Hanavan and Milroy went off together later to seek a way out, but were soon sent back. Cummings took pictures . . .

And then, before we knew it, it was sunset. The vapors about the snowy peak parted for a brief fifteen minutes while the perpetual heaps of cumulus turned blood-red. It was so like the first sunset we had seen on the mountain . . . And then with tropical suddenness, it was night. From the glass cover of the avenue there streamed a white luminescence, throwing odd black shadows athwart the garden. Lights glowed here and there upon the mountain's flank, while the white tower, like a condensed constellation, reared into the evening mists.

We were given a short time to view Imperium by night, however. Attendants came immediately and we were gently but firmly impelled below. Our guides then tried to make us enter another chute, but the frenzied protests of Prof. Pfeiffler, whom they had singled out to go first, deterred them. We descended by an elevator to the pneumatic tube. The guide said nothing, even when Prof. Milroy tried out his version of their tongue. He gave up his efforts when the car stopped and we were conducted to another elevator.

Up again and out onto a long blue-floored corridor. I had lost all sense of direction by then. The hall along which we walked ended in a wide balcony, which from our brightly-lighted position seemed to look out over a black infinity. As we neared it, metallic sounds of clanking and thumping became audible. The next instant we were upon the balcony, peering off into space.

As our eyes became accustomed to the obscurity, we realized what lay before us. We were overlooking an enormous amphitheater, miles long and wide. The floor lay some three hundred feet below, lighted at intervals by flood-lamps which only served to accentuate the weirdness of the place. On the floor were immense steel frames upon several of which the black forms of resting airships lay. Across, I caught a vague glimpse of derricks working over something. Overhead the stars twinkled brightly; while occasionally passing clouds shone with reflected light from the city.

The next second we were prodded into activity and hurried along the gallery. "Dockyards for their space ships," murmured Lord Hanavan, "what a place!" From behind I heard a muttered exclamation in German.

A few minutes' walk brought us alongside one of the quiescent monsters. A sort of gangway led to a door in its side, and up this we were escorted. Here it was that the first inkling of the truth flashed upon us. As we stepped into the ship Lord Hanavan seized the Zongainian by the shoulder and said, "Where are you taking us? Where does this ship go?"

"Dunsaan," replied the other, wincing.

"Where is Dunsaan?" cried Hanavan "Is it—"

'Dunsaan is—planet of—you call Alpha Centauri—all Voyians sent there—please, release my shoulder—" Hanavan's hand dropped.

"We would like to see El Zoia—Ver Menisto." He spoke evenly, as though trying to control himself.

"Very sorry, but El Zoia cannot see you. He is gone

to Palata; out of the city. Besides these are his orders."

The man started to descend the gangway. Lord Hanavan paused a moment and then hissed under his breath: "If we don't make a break now, we never can—knock that one over, Milroy—now!" With this he seized the nearest man by the neck and sent him spinning down the gangplank. Then, with us close at his heels, he started racing toward the balcony. For an instant it seemed that our mad attempt might be successful, for the gallery appeared empty. But before Hanavan was halfway down, a score of men armed with their little guns raced out and pointing these toward us ordered us to halt. Hanavan's rage departed as suddenly as it had come. Stopping, he pivoted and marched stiffly back to the door. We followed in silence. We were defeated.

Once aboard the craft, things proceeded exactly as though nothing unwonted had occurred. We were escorted to a small windowless room and locked in. After a time we heard the faint sound of machinery, and a few moments later a series of gentle jerks. After that the ship might have been resting on solid granite for all the motion it gave; but we knew it was not. We were flying—perhaps already beyond the earth's atmosphere toward Dunsaan, beyond the solar system.

CHAPTER VIII

En Route To Alpha Centauri

FOR more than two hours we remained in our little cell without receiving a word from outside. We listened, hearing nothing, but gradually an odd feeling became apparent. We seemed to be gaining weight. Lord Hanavan reasoned that this might be caused by extreme acceleration in an upward direction; that is to say, toward the roof of the car. We soon found that even sitting up was rather tiring—so we stretched full length upon the couches. At eleven p.m. by Milroy's watch the door to the room suddenly opened and an officer stepped in.

"You may come to the control room," said he in fair English. "Follow me."

Five minutes after, we ascended a short ramp into the "pilot house" of the great space ship.

The room was of an oval shape with walls and roof of metal-ribbed glass panes. It measured some thirty by twenty feet. Upon the walls and the tables on the floor were dials, levers, instruments. Outside—

It is beyond the power of man to describe the spectacle that lay beyond the windows. Above, to all sides below, a sky of velvety blackness, blazing with stars of every hue of the rainbow—millions of fiery points of light, hanging magically in a tenuous web-work of nebulæ, invisible from earth. We could fairly feel the immensity we were looking into. I was overcome by dizziness at the thought of the distances below. We appeared to be suspended motionless in the center of infinity. I became conscious that Hanavan was pointing to one side and speaking.

"Look! There . . . it's Mars!"

It was. Like a small full moon of a bright orange color faintly mottled with dark lines, the planet hung. Even as we watched, it dropped appreciably downward as the space flyer shot up from the sun.

Our conductor was at our elbow. "Soon," he said, "it will commence to show phases like the moon. We are still between it and the sun. Look," he pointed, "down there is Voya."

We peered, expecting to see the hypothetical blue-green disc, but only a thin crescent greeted the eye. We were already far beyond the Earth's orbit. The moon somewhere on the other side of our planet was quite invisible.

Our guide then proceeded to explain something about the navigation of the ship itself. I fear none of us comprehended much at the time. Later we were to become familiar with these wonderful craft, but in a much different way.

It seems that the navigation of Zongainian *prolos* across the voids of the Universe is a most complex process. A line is made between two stars, its exact length computed with extreme accuracy, and the ship directed with a continuous acceleration for just half the distance. The craft is then turned around and after a short "glide" at peak velocity it begins to slow down reaching a speed of zero relative to the destination within a few thousand miles of it.

The amount of acceleration is determined by the distance and is limited by the extra strain it puts upon the human system. If a *prolo*, so we were informed, turned off its power while out in space, everything inside it would be weightless. This produced excessive nausea and might result in the death of passengers, so the plan was adopted of letting the acceleration maintain a continual inertia force and consequently an artificial weight. On long trips this acceleration was much increased to save time. The officer said that we would cover the distance to Dunsaan in about eight weeks. "This is a very fast ship," he explained, "it is not a passenger craft, but what you would call a battleship—we have international difficulties here, too." He added, in answer to our questioning looks. "The *prolo* is carrying supplies to the Zongainian dockyards on Dunsaan—you are the only passengers."

"What is our velocity now?" asked Prof. Milroy.

"We have gone, roughly, fifty millions of miles from Voya," he explained. "This has taken three hours at a mean velocity of about 4,400 miles per second. Since our acceleration is constant the velocity relative to the Earth is now 8,800 miles per second. We are going very slowly now. As soon as Jupiter and the asteroids are passed, the acceleration rate will be great increased. In five or six days the ship will be traveling several times faster than light."

Dr. Cummings looked surprised and asked "Our physicists have always held that it is impossible to travel faster than light—doesn't one experience some peculiar phenomena at 186,000 miles per second?"

"Possibly your physicists never experimented to prove their theories," replied the officer. "But we do see a number of interesting things. What your scientists called Doppler's effect causes all the stars ahead to become purple and ultimately vanish, while those behind redden into invisibility also. As the *prolo's* velocity from the oncoming light separates the waves, when the *prolo* reaches the speed of light it will be impossible to see anything save in a thin ring at right angles to the direction of light, because the light from in front has been changed to extreme ultra-violet as we plunge into it, and the light from behind traveling at the same speed, goes along with the ship.

"Then, as the ship approaches twice the speed of light, it begins to catch up on the light from behind and when we cut into it at the right velocity we see ahead of us what really lies behind. It is very like one of your ocean ships cutting into water waves from the windward when it is traveling at full speed. As the velocity increases, however, all light vanishes save for a ring-shaped rainbow around the ship, which becomes thinner as we race faster."

WE listened to this explanation comprehending very little. I am not a scientist and so the best I can do is to leave it to some more highly-trained mind to dis-

cover the reasons. Suffice it to say, however, in the ensuing weeks the very phenomena described by the officer occurred exactly as he had predicted.

The rest of the journey through the solar system was accomplished in some twenty hours. The great outer planets passed us one by one; but in general, after our first surprise, we were rather disappointed. Jupiter was only a tiny, colored disk but Saturn proved more interesting. For hours it loomed in the sky, softly pastel-shaded, surrounded by its delicately spun tracery of rings which we could see extended much farther out than can be seen through the Earth's atmosphere. Then it dropped downward, changed to a crescent and disappeared. Now the *prolo's* velocity began to increase in earnest. Everyone reclined on padded couches; including the man doing the navigating. A bell rang stridently and then a giant hand seemed to press down upon us crushing our bodies suffocatingly into the cushions. I lifted my arm; it fell back as though made of lead. From his position on a near divan the officer spoke without raising his head.

"You weigh about eight times normal. As soon as it becomes uncomfortable we will slack up a little . . . Ships don't usually do this, but we are hurried."

We lay still for some twenty minutes, when the deadening weight of inertia was lifted—weighing but twice normal we were again able to walk about.

At four a.m. by our watches, the *prolo* passed the orbit of Neptune. The solar system now lay below; propelled by its mighty engines, the space ship shot upward at an ever-increasing velocity.

The Doppler effect was now quite noticeable; the stars and nebulæ above glowed violet while the sun, which we were so fast leaving behind, was only a small, ruddy disk against a background of dim orange stars . . .

At five a.m. the signal bell announced the hour of sleep. Much fatigued by our increased weight we were led back to the room. The officer gave us all sleeping potions, explaining that as the *prolo* increased its acceleration greatly when everybody was reclining, we must have an artificial agent to sleep with the increased weight.

"We keep no watches," he explained. "At the rest time everyone sleeps—navigation is wholly automatic."

So we drank down our potions and spreading on the couches as directed by the officer, sank into a deep and dreamless slumber, while the space ship raced across the universe at a hundred thousand miles a second.

Morning, which in the little world of the space flyer came at three p.m., found us far beyond the orbit of Neptune. From the control room where we repaired after breakfast, the sky appeared dead black. The velocity reading when translated into English units indicated a speed of two hundred and seventy thousand miles per second. Our guide, the officer, explained that in an hour or so we would be moving at twice the speed of light and that as we cut into the light from the sun we would behold ahead what the ship was leaving behind.

At lunch time the navigating crew, numbering some fifteen men and women—the captain of the craft was a woman—computed the path of the flyer and corrected some slight error in direction. The change was exceedingly minute, less than a thousandths of a second of arc, but the lateral jerk caused by our immense forward velocity threw everyone sideways. Shortly after eight p.m. a little less than twenty-four hours after our start, the sky above glowed with the stars we were leaving behind. At first red, they slowly changed through the colors of the spectrum and at one a.m. next "morning" vanished. For the rest of the trip—so we understood—the heavens would be a solid, intense black, unrelieved by a single star.

At five a.m. we were again put to sleep and the *prolo* increased its acceleration for another ten hours.

Slowly day followed day and week succeeded week. Our velocity gradually mounted into figures beyond all human conception. Each "forenoon," by some method we could not comprehend, the direction of the *prolo* was checked. Then we would eat the weak-flavored jelly and the bitter drink. Our officer friend—his name was Ver Vlygar Moti—would patiently teach us Zongainian. The simpler common language made up of Latin and Egyptian words was easy to understand; but the classic tongue of the ancient Metyrs presented great difficulties. In the first place a good speaking vocabulary required some six hundred thousand words at the least, while educated people had at their command as many as a million and a half. For once in his life Prof. Milroy was up against something. But that person, evidently realizing that the honor of the party was at stake, stuck manfully to the job and before the end of the trip had mastered the grammar and a good hundred and fifty thousand words.

As for the rest of us we did the best we could with the conversational tongue, acquiring by much practice with the crew a fair fluency in its eight thousand common words.

SOMETIMES when he was not on duty, Ver Moti would tell us stories of the universe and its countless worlds. Many of them, he said, were inhabited by weird forms of life utterly different from anything on the earth. He told tales of his marvelous experiences on a Zongainian stellar patrol cruiser; of battles with creatures of the metallic elements; of flights over intelligent animals weighing millions of tons; and of communication with civilized bacteria on great cold worlds of the outer nebulæ.

On a few planets in all the universe, he said, live creatures in the forms of men. Most were barbaric, but a dozen planets or more were inhabited by peoples with whom trade could be established. To these scattered worlds the far-flung fabric of the Zongainian *prolo* transport system reached.

Near the end of the fourth week the navigating crew announced that we had covered half of the distance to Dunsaan. Everyone became more interested at this and seemed to consider it a special occasion. Upon inquiry Ver Moti explained as follows:

When half a voyage is accomplished the motors are turned off and the *prolo* turning about, presents its crystal propulsion plates forward. Then after a short time of free "gliding," the motors are turned on, this time slowing the ship. The deceleration takes as long as the acceleration. The period of free gliding, however, was what the crew looked forward to, as everything on board would lose weight. Different people, explained Ver Moti, were affected in various ways. Some become frightfully nauseated; others have fits; while many are wholly unaffected by their weightlessness. Crews are picked for immunity from "gravity-sickness," as *prolos* by gliding at peak velocity can cover much distance using a minimum of fuel. Usually our ship glided for an hour or so, when the crew put on a sort of acrobatic circus trying all kinds of tricks of floating.

Late that "afternoon" the captain announced that the motors would be stopped the next day at noon. No one was to breakfast—as a preventive measure.

Next morning, as may well be imagined, we five passengers shared the excitement of the crew for the forthcoming experience. Lord Hanavan, who had read the physiological aspects of the case, hoped that we would not be sickened. We counted minutes until noon.

The navigating crew worked all morning over their in-

comprehensible mathematics, gave their verdict, and then the alarm bell rang. The crew stopped everything they were doing—and waited. "It's coming!" cried Ver Moti.

Suddenly I sensed my weight going. It felt like the lifting of burdens from my back . . . lighter . . . lighter. And then, without warning, we seemed to be falling. There was no motion of the *prolo* but over my body came that horrible feeling of dropping . . . down . . . down . . . illimitable distances. The nearest approach to it I know is the sudden swoop of a roller-coaster car. But this was continual.

I made a wild leap for a stanchion, when the cabin apparently began turning and twisting around me while I hung suspended in the center of the room. All my internal organs were rising upwards . . . Then I glimpsed the officer, upside down, his cape floating weirdly above, come drifting toward me. He bumped me with a slight shock and his momentum carried us to the farther wall. There I clung, my feet resting upon the ceiling, while the crew now all assembled in the control room began going through the strangest performances.

Clothing, inanimate objects, round globules of liquid, all revolved and slipped and drifted back and forth, up and down through the room. After a few moments my brain cleared and, emboldened by Hanavan who was floundering about and having the time of his life, I pushed out.

Through all our subsequent adventures that first swim without weight remained in my memory as one of the oddest of experiences. It is impossible to describe the sensation of turning head over heels in mid air, colliding with drifting chairs, pieces of clothing, balls of the sour drink made spherical by surface tension, and all of the time filled with that most terrible sense of falling.

We glided for about twenty minutes, then the ship having been turned about by some more sober member of the crew, the alarm bells signaled that weight was about to be resumed. All floundered floorward hastily, and then without warning we became solid material beings again, and decidedly dizzy ones at that. Prof. Milroy and I led each other to the nearest couch where we rested. "Remarkable! . . . Remarkable!" he kept repeating, rubbing a bruised spot. Prof. Pfeiffler sat heavily across the room, blinking at us in a not wholly displeased manner. Finally he found his voice.

"*Gott im Himmel!* I schver, id's as goot as schnapps!"

CHAPTER IX

On Dunsaan

HALF of our voyage was now finished; for another four and a half weeks the *prolo* would be slowing down as it raced toward its destination. In spite of the fact that it was likely to be our prison for the rest of our natural lives, we all began to feel a growing curiosity regarding the planet Dunsaan. Accordingly, one morning at four a.m. we repaired to the room of our friend, Ver Vylgar Moti. Here we gleaned considerable information regarding our future home.

Dunsaan, so Ver Moti explained, had a circumference a little short of forty thousand English miles. But its density being somewhat less than that of the earth its gravity was only slightly greater. The surface of the planet was going through a geologic age very like that of the earth's early Paleozoic—that is, it was mostly swamp and shallow seas, covered with a profusion of low orders of plant and animal life.

There was a transported population of thirty odd millions from the neighboring planet of Duranko, a large sphere inhabited by a somewhat manlike race, and a few hundred Zongainians who maintained a dockyard for battle *prolos*. In addition there were about thirty exiles from Mother Earth, who had had the ill luck to stumble upon Zongainia.

The principal industry was mining under the beds of ooze for the partly decayed bodies of a species of small reptile, much prized by the people of Duranko.

Of course, we were much interested in our fellow prisoners but Ver Moti could offer little data in regard to them. "They are, I think," said he, "in the majority, prospectors, professional elephant hunters; Boers; some have been here thirty years. There are the two exploring expeditions, of course. The Lloyd-Turnbull party of 1914 and the relief expedition. They number, I believe, six . . . not sure though."

The four weeks passed like centuries. Every day, data collected, corrections made, came dinner. Then for us a movie entertainment, Zongainian dramas of weird adventures—I don't believe we saw a single play that might be termed a love story, supper followed and another half-hour for digestion which we spent in patching our battered clothing—bed and sleep powders. Next day the same thing over again. Near the end of the time, Ver Moti finally prevailed upon us to throw away the old khaki and wear the loose tunic, the transparent composition sandals and flowing cape of the crew. We found these surprisingly comfortable.

Well, all things end at last and so did our journey. Once again the stars appeared in the sky, changed color and then remained. But what a difference! The heavens blazed with unknown spheres, while directly below the *prolo* lay Alpha Centauri, a magnificent twin star of orange and green. With some difficulty Ver Moti pointed out a little yellow disk far below. "That," said he, "is Dunsaan." The two suns whose glare illuminated the whole heavens cast strange green and orange lights upon the wall, dimming the Geissler lamps. With a small telescope we could make out the faint markings on the fast approaching planet.

Then observations were suddenly stopped by the ringing of the alarm bell. We were going too fast; deceleration must be increased. I threw myself on the couch just as the iron hand of momentum pressed down. For a few moments my very breath was squeezed out and then the weight was released. This drastic measure secured the necessary result; in a few minutes the *prolo* was flying at the rate of only thirty miles per second just beyond Dunsaan's atmosphere. Prof. Pfeiffler peered down with our glasses, staunching a nosebleed at the same time.

Quite rapidly the surface of the new world slipped below, a wide flat expanse of morass interspaced with shallow lakes and seas. Over all lay a murky haze shutting out the sun's rays like a damp blanket. Finally, an immense city, protected from the swamps by dikes, appeared. In its center we made out the rectangular structure of a *prolo* landingway toward which the chief navigator was piloting the ship. Moment by moment the city rose to meet us until at last, eight weeks and five days after arising from Imperium, Zongainia, the keel of the space ship touched the steel landing cradle at Dunsaan, planet of Alpha Centauri.

As the last propulsion plate was turned off and the full weight of the *prolo* pressed the hydraulic landing rails deep into their concrete beds, the door was opened and the gangway run out. For a moment air rushed into the space craft, a peculiar pungent air its odor reminiscent of cypress swamps, and then a number of men ran up the ramp to the door. One of them, evidently of some authority, demanded to see the commander. She was at once

sent for, while the official waited impatiently in the control room. We five "passengers" made ourselves inconspicuous in a corner and watched. In a few moments Ver Vera Nadji, the commander, entered to be at once fairly leaped upon by the waiting man.

"Thanks to all our ancestors that you are here!" he cried in Zongainian. "We thought that your ship had been caught . . ." He paused. Vera Nadji seemed astounded.

"Caught?" she repeated. "By whom?"

"You don't know? But then you have been out of touch for sixty-one days . . . We have our latest information from the Ethero beam transmitter at Waiko . . . two days ago . . . 'all unconvoyed *prolos* are to remain in the fortified dockyard' . . . It's war, Vera Nadji . . . If El Zoia has not ordered the battle fleet together already, he will within ten days!"

VERA NADJI fell back in horror. "I thought they would settle it peacefully . . . The Interstellar Commerce Commission was in session . . ."

The man laughed. "The Interstellar Commerce Commission . . . Bah! Since Vera Miraza was Presonio it has done nothing but aggravate matters."

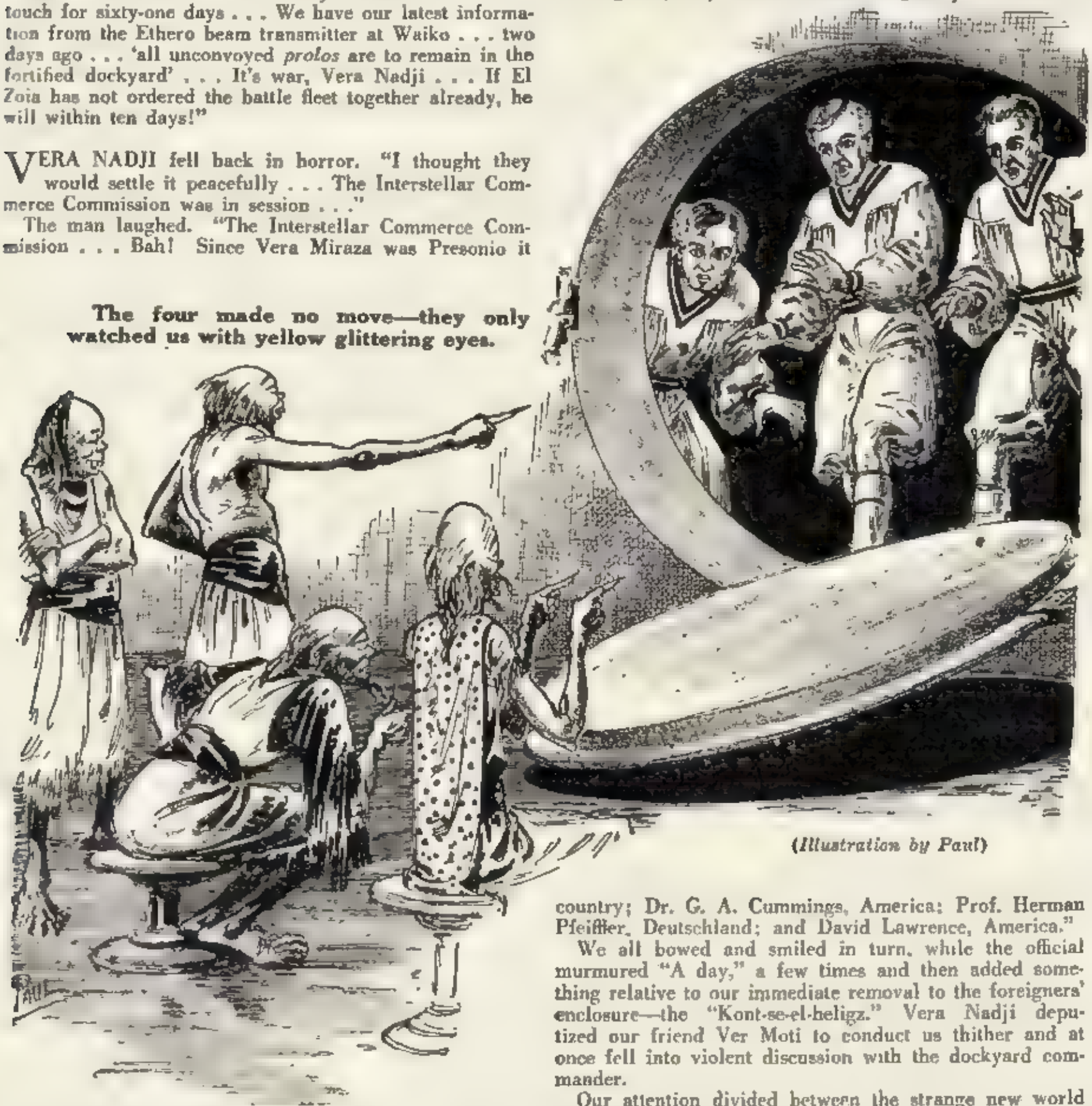
The commander of the *prolo* shook her head. "It will be terrible. Zongainia will win, of course. But for us it will mean scores of battleships destroyed; thousands killed. For them, a planet ravaged, a whole race wiped out. They are idiots, Ver Muot!"

The official nodded. "Do you suppose they will come here?"

Vera Nadji shrugged. "Perhaps. But you have batteries, Ver Muot. And you will have battle *prolos*. What if they do?"

Ver Muot shivered, replying, "I am more interested in being commandant of a repair station, than a dead hero on a wrecked *prolo*."

The woman laughed, and then turning suddenly toward us cried: "Ah! yes, Ver Muot—and I have more colonists for your 'Discontented Club' here," she beckoned him after her. "May I present Lord Mitchell Hanavan of England, Voya; Prof. Sheridan Milroy of the same country; Dr. G. A. Cummings, America; Prof. Herman Pfeiffer, Deutschland; and David Lawrence, America."



The four made no move—they only watched us with yellow glittering eyes.

(Illustration by Paul)

We all bowed and smiled in turn, while the official murmured "A day," a few times and then added something relative to our immediate removal to the foreigners' enclosure—the "Kont-se-el-heligz." Vera Nadji deputized our friend Ver Moti to conduct us thither and at once fell into violent discussion with the dockyard commander.

Our attention divided between the strange new world we were entering and the impending war, we descended from the landingway and got our first view of Dunsaan at close quarters. I confess it quite struck all thoughts of war from our minds. The city spread for miles in every direction, a heterogeneous assemblage of flat-topped white adobe buildings, none more than twenty feet high.

The walls were pierced at irregular intervals with round screened windows and doors, in and out of which went the inhabitants. And such creatures they were!

White, about four feet high, two-legged, like men, but there the resemblance ended. The whole upper portion of their bodies was covered with a rubbery white mantle of skin under which a score or more flexible and retractive tentacles undulated. The brain was contained in a limp lobe at the top of the mantle; the mouth, as we later found, lay underneath. The creature's single eye, fastened on the tip of one tentacle, constantly swayed back and forth as it walked. Looking at them one had an unforgettable sensation of flabby bonelessness—of a certain softness such as is associated with polyps. I think Prof. Pfeiffler was the only one not overcome with revulsion.

"Vell," he remarked with gusto as we entered the first street, "Ve got to disseed von uf doze!" This didn't improve our impressions much. Ver Moti laughed. "They're from Duranko," he explained. "Sister planet of Dunsaan—same system. Intelligence a little below us but rather clever in certain lines . . . quite deaf and dumb. Your friend Ver Milroy will have a time learning their sign langage."

Apparently there were no street cars in Dunsaan. The entire three miles to the foreign settlement was made on foot. We threaded our course along avenues crowded with the odd white creatures who, by the way, displayed no curiosity concerning us, until at last another white building under the brow of one of the city's protecting dikes appeared.

"This," said Ver Moti, "is the 'Discontented Club.' You will find a quite nice group in there—they play cards and smoke and drink and have all the other disgusting little habits you like so well. So I imagine it won't be too hard."

He knocked on the front door which was opened after some time by a huge fat man smoking an immense Dutch pipe. "Vell," said he in English, "vat iss id now?"

Prof. Pfeiffler, his eyes lighting, poured forth a stream of fluent low Dutch to which the other, immensely startled, responded eagerly. Separating the two with difficulty, we entered the building. Ver Moti officiated in making the introductions, and then left us, bag and baggage, and not very much of that, in the main room. Our fellow exiles seemed very kind and friendly, showing us rooms on the upper floor and asking us numberless questions.

The house, a big bare structure, once used as a warehouse by the Zongainians, contained five Englishmen, one Frenchman and seventeen Boers. The Englishmen were of the two ill-fated parties that had preceded us up the Nile; the Frenchman, the sole survivor of a detachment of the Foreign Legion which had penetrated the forbidden land from the west, while the Boers had wandered in by twos and threes in the course of elephant hunts and treks after gold.

We noticed almost immediately a sort of separation between the English and French, and the Dutchmen. They lived in different parts of the building, ate apart and, as we found, did not even converse unless absolutely necessary. Our curiosity as to this state of affairs was soon satisfied, for that evening at the mess table the leader of the Englishmen arose and after introducing himself as 'Arry 'Awkins made a semi-official speech that was very illuminating.

He commenced by stating that at the time the second party entered the wilderness in 1914, the Great War was just beginning and that the Dutchmen, upon hearing the news told in a more or less partisan manner, immediately took the side of their neighbors against England. This feeling was not mitigated by the recent, to them, Boer War, in which several had received wounds. During the years of idleness here in Dunsaan a bitter controversy over the outcome of the war had arisen, and it had become one of the important topics of discussion.

Both sides imagined how its course was running; each favorable to his own faction and each hopelessly convinced of his own correctness. Besides this the natures of the two nationalities tended to drive them apart. The English were forever talking and planning about escape; while the stolid Boers, satisfied with an easy life and naturally disliking the idea of physical danger, preferred to remain where they were. Other things further aggravated matters until the exiles were anything but the happy family they might have been. The Frenchman had fought a duel with a Dutchman and killed him. His companions complained to the commander, Ver Muot, but the latter refused to take any action, asserting that the quicker they killed each other off the happier he would be. At this juncture we had arrived with our store of news and fresh ideas, like a sea breeze on a desert. Oftimes, however, a sea breeze can fan embers to a flame. And, as it turned out, this is what we did.

HAWKINS was impatient for news from the world. Taking turns we stayed up most of the night narrating the wonderful events that had transpired during the last fifteen years. The Boers came in, too, but made little comment. Hawkins nudged me as we ascended to bed and whispered delightedly something about, "Blimey, but our victory doesn't help their digestion."

Next morning at breakfast in the English quarters Hawkins, after suddenly opening every door for listeners and peering from each window, told us all to draw near. Then he began to speak in a low voice, punctuating his discourse with many suggestive gestures and mysterious glances.

"It might look," he commenced, "like we was laid by 'ere for duration—an' maybe it woulda been, if 'Arry 'Awkins 'adn't been along. Has soon has Hi harrived on this blasted planet, Hi thought to myself: "'Arry,' Hi thought, 'hit's hup to you to get hout of 'ere. Hit may take a long time but you're a long ways from old Lunnon, so don't get himpatient, 'Arry, me boy.' Well, we 'adn't been 'ere two months when Sir Percy, 'e was as commanded us, gawd bless 'im, discovered one of these 'ere space flyin' boats lyin' in the swamp out 'ere has neat as you please with honly 'er engine gone and most of 'er side bashed in. Sir Percy said she 'ad been in a wreck an' hafter they pulled hout the machinery they left 'er 'ull to rot. Right away Hi saw the way we could pick up and leave these blighters hanny time we choose by just putting in a new hengine an' patching hup 'er 'ull. So we started in swipin' hiron plates and parts of a hengine and Sir Percy got 'old of some plans—and there we was.

"But blimey, hit was slow. There was big iron castings and hall kinds of gadjets that Hi don't understand yet, to sneak in, and hoften we went a fortnight without gettin' has much has a blinkin' bolt. But old Sir Percy 'e was a good un, 'e got everything there and put together right. When we found hout that, we didn't 'ave no instruments to navigate with. So we 'ad to start hall over again. But then hit was five years ago last month Sir Percy died of fever. Hafter 'e was buried our luck left us. Hi was the only one as 'ad the nerve to swipe anythin' but none of us was sure 'ow to put the bloody swag onto the boat. Jenkins 'ere was for startin' hout without the instruments, but Hi says 'We've got plenty of time; don't worry an' maybe 'Arry 'Awkins can think hout a way.' So all we've been doin' for three year, come next September, his to pick up hextra hinstruments and load 'em into the machine."

He paused for a moment in his talk to peer out the win-

dow. Evidently finding all satisfactory he hunched a little closer and almost whispered:

"These Dutchies, the blighters, don't know wot we 'as up our sleeves. Hif they did they would tell the Colonel, e what calls isself Ver Muot, just out of spite because they hare so mad we won the war. They want to stay 'ere, they do, an' they can until they rot, for hall Hi care. Hall we needs is a good mechanic to read the plans and fix the hinstruments and then the Colonel and the Dutchies can go to 'ell. Blast 'em!"

We listened to this picturesque discussion with immense interest and, as may well be imagined, plied Hawkins with questions afterwards. In this manner we learned that the repaired *prolo*, a sixty-foot craft, was partly imbedded in a pre-carboniferous swamp about five English miles from the city and on its opposite side. It was this distance which necessitated a long detour around the outer slope of the dike that made the Englishmen's visits to their ark so rare. The Zongainians, however, did not watch their prisoners very closely as escape seemed highly improbable, and besides for some months they had been taken up entirely with their "bloody war," as Hawkins put it.

This led the conversation to the mysterious talk between Ver Muot and Vera Nadji on the transport. Hawkins knew very little, save that there was some kind of trouble between Zongainia and a place called Kanan, evidently another planet. The impending war seemed so distant from our interests that we five newcomers soon considered it as unimportant as did Hawkins. Its main effect would be to make our jailers forget us, that was as far as our thoughts went.

CHAPTER X

War!

AFTER a week or so of settling down to satisfy Hawkins' sense of what would appear proper to the authorities, we made a midnight trip to the hidden *prolo*. Climbing out of a back window facing the dike, the five of us were joined by Hawkins and the Frenchman. Without a word they led us up the embankment over the crest of the dike—some eighty feet high—and part way down its other side. Cautioning us to be careful of our footing, Hawkins proceeded ahead. Heavy dank odors ascended from the morass below and now and then I heard thumps and splashes as though some large amphibians were moving about. The darkness was absolute for Dunsaan was moonless and its thick atmosphere prevented any starlight from filtering through. If it had not been for a dim phosphorescence which outlined the ground, we could not have gone a step.

After nearly three hours, Hawkins slowed down and began peering close to the ground. Soon he gave an exclamation of pleasure and picked up the end of a light, woven-wire cord. Motioning us toward him he whispered, "Watch where Hi walk and keep 'old of the line, this swamp his bottomless." Then slipping the cable under his arm he clambered down the bank to the flat. Hanavan, Milroy, Cummings, Pfeiffler and I followed, while the Frenchman brought up the rear. At the bottom of the dike Hawkins, with the confidence of one on familiar ground, proceeded out upon a long spit of quaking land, between black pools of water.

Ahead the cord stretched, rising dripping from the slime and soon covering our hands with ill-smelling liquid. No word was spoken. Hawkins skilfully stepped on long scaly logs, jumped across menacing pools and occasionally passed over a more or less solid island of rank grass. On either side I heard the scurry and splash of animals, but evidently the denizens of this Dunsaanian swamp were very timid, for we never saw one.

At the end of another hour of exhausting travel a dark metallic mass loomed before us and Hawkins stopped. He fumbled with the door, opened it, and after carefully wiping his feet climbed in. We followed, thanking Heaven for having a floor underfoot again. Hawkins immediately made a light and showed us over the craft with pride. Everywhere the work of a master mechanic was in evidence. Steel ribs had been bent into shape, or replaced; plates had been welded on. The engines, complicated things, as yet confusing to us, were all in place. Oiled, their fuel tanks full, they were ready to hurl the *prolo* into space as soon as the instruments were in place.

While Hawkins was showing us around, the Frenchman brought out the all-important plans. Lord Hanavan and Prof. Milroy, who were the only ones familiar with the Zongainian written language, pored over them saying little. The Frenchman and Cummings, who knew French, struck up a conversation in that tongue. Prof. Pfeiffler, armed with a flashlight and a light crowbar, went to the nearest island in search of specimens, while Hawkins entertained me with a lengthy history of his early life in the neighborhood of Billingsgate. Time passed quickly and soon the green ray of the first sun struck across the swamp to announce the coming of another day. The seven-hour night was over.

Hawkins was not worried; as much as three days had often been spent at the *prolo* without exciting suspicion. Opening a cupboard he brought out some anti-sleep powders to carry us over until we should return. "These 'ere Zongainians," he remarked, "'ave a blinkin' powder for hevery hoccasion."

The short day was spent in much the same manner as the night. Hanavan and Milroy were evidently "getting" the plans for they took more anti-sleep powders and dissected one of the spare instruments with many knowing nods and Zongainian words. Between the equally lengthy anecdotes of Hawkins and the Frenchman, I fell gradually asleep. The last thing I can remember was the Frenchman saying: "*—et quand Marie m'a vu, elle m'aimait tout de suite, comme toutes les autres . . .*"

With the setting of Dunsaan's twin suns we prepared to return. Lord Hanavan, though his mechanical experience had been limited to motor boats and radio, had succeeded in installing the telescopic meteor-lookout and the speedometer, and he assured us that the plans were not half as difficult as they appeared.

The green sun vanished, and after a short period of orange twilight the intense night of the far planet descended.

The return journey was started uneventfully, hardly a word being said by anyone. Through the dim radiance of the luminous plants we trudged, each occupied with his own thoughts. Near midnight Hawkins turned sharply right and up the embankment. Some paces behind we followed, groping for the grasses of the crest. Looking upward I discerned the cockney's sturdy form silhouetted for an instant against the city's glow; then with a whispered gasp of warning he rolled back upon us.

"A crowd in front of the 'ouse . . . Zongainians . . . those Dutchies . . ."

OUR hearts scarcely beating, we carefully elevated our heads over the parapet. The building was flooded with light, a hundred Zongainians and a good thousand of the weird white people surrounded it. In the middle of the group near the door were the treacherous Boers and the four other Englishmen, facing Ver Muot and his

guards. We could not hear what was being said, but it was not difficult to guess. The Boers had found out our plans—perhaps overheard where the *prolo* was . . .

I felt Hawkins tugging at my sleeve.

"Back to the boat! Hi say—has quick as we can make hit!"

I started to wriggle down the dike when he seized my ankle. "Not that way—we 'aven't time. We'll 'ave to chance hit across the city."

Back we scrambled to the top of the dike where, hidden by the long grass, we crawled a hundred yards beyond the floodlights and then down into a dark street. Led by the wonderful Hawkins we scurried along, ducking into the yard-high doorways when the mantled white people passed. Fortunate it was that they were deaf, otherwise our loud breathing would surely have betrayed us. For a time we seemed to have eluded any search party, but our hopes were soon shattered.

The Frenchman suddenly shoved Hawkins against the wall, hissing— *"Gare! La prolo* . . . Eet ees there!" We crouched for a moment, watching the slender form go silently by, her searchlight flicking from street to street. Running now, we started out afresh. Again the *prolo* passed and again we were fortunate in hiding against the wall.

I thought we were hopelessly lost when between two buildings I saw, massive and grass-covered, the dike! Faint with the reaction, we struggled up its face and slipped down until our feet were in the morass. Hawkins searched frantically a few moments and then holding tight to our life-line we started out over the swamp. Haste was imperative, for a faint glow indicated that dawn would soon be at hand. For centuries, so it seemed, we floundered through rank grass and brackish water before the steel walls of the *prolo* came into view. Never did I see a more welcome sight! We piled in, this time one may be sure, not stopping to wipe our feet.

"We will 'ave to start hat once!" gasped Hawkins as soon as he had found the knob which turned on the glow light. "They'll scour these swamps till they find us, that's wot they'll do. We got to be gone before daylight."

Hawkins and Hanavan went into the engine room to start the motors, while Milroy and the rest of us screwed down the windows and door. Our terror of capture drove all sane reasoning from our minds; even Lord Hanavan utterly forgot that half the instruments were unmounted and that we were quite without charts of the starry void into which we were going.

Fortunately the *prolo* was well supplied with fuel, food and oxygen. Indeed, the assiduous efforts of Harry Hawkins and his companions had filled every nook and cranny of the cabin to overflowing. We were not, however, in a mood to throw away provisions for comfort.

Thanks to the frantic efforts of Hawkins and Lord Hanavan the motors were started and the ship was ready to rise some time before dawn. We all assembled in the main cabin and after a pause, a sort of mental gathering of courage, Hawkins turned on the propulsion plates. The craft heaved out of its muddy dockyard with a sucking sound and immediately poked its steel prow into a dense thicket of fern trees. Hawkins backed it out, the stern overturning a tree in the process; and then realizing that the swamp was a little dangerous for windows he brought the *prolo* straight up a thousand feet. There we hesitated.

"Our *camarades*," cried the Frenchman. "Our friends who have worked through all zee long years to make zees escape! Are we to leave zem behind?"

Hawkins, filled with emotion, could not reply. But Lord Hanavan did. "To descend now would mean certain capture," he said slowly, "we can do them a greater service by returning to the world and sending help, than by giving up this ship over which they have labored . . . Let us go on . . ."

As the *prolo* ascended beyond the last vestige of Dunsaan's thick atmosphere, the twin suns arose above the horizon. Their light, though weird in its duality of color, had nevertheless a cheering effect upon us. Below lay the dark bulk of Dunsaan, with its fetid swamps and its weird inhabitants. Above, the starry universe glowed incredibly distant. And we seven voyagers from the world hung between the zenith and the nadir, like Mohammed's coffin, in a steel space-flying machine, about whose operation we knew next to nothing.

Now that we had left the closeness and excitement of the swamp, we realized with awful clarity the position we were in. Hawkins knew the general direction of the sun, but since everything ahead would vanish as soon as we went faster, visual navigation would never do.

"Hif Sir Percy was only 'ere," wailed Hawkins, "'e knew hall about 'ow to do hit."

But Sir Percy was, perhaps fortunately for him, beyond care of escape.

OUR hopes had reached their lowest ebb when Prof. Milroy, who had been looking at Dunsaan through the glasses, suddenly seized my arm and cried, "One of their *prolos* . . . a big one . . . it's coming toward us!"

Hawkins looked—then I. Milroy was right. Already the strange craft was near enough to see without the binoculars, a tiny metal spindle gleaming in the sunlight. For an instant we were seized with a terror that we had been sighted, but reason soon told us that our smallness would prevent our being visible at this distance. Steadily the *prolo* arose; it was heading toward the part of the sky where the sun lay. Almost simultaneously the idea flashed upon us—the way to get back to the earth. Follow that ship!

Immediate action was necessary! It was already past us. Leaping to the control chair, Hanavan turned on the power. We were fairly thrown to the floor. For an instant the universe reeled around us; then Hanavan had the car straightened out. With ever-increasing velocity we tore after the fleeing *prolo*, pressed flat by the violence of acceleration. After a few ticklish moments we commenced to gain on the bigger craft. Lowering the acceleration rate to conform to that of the *prolo* ahead, we had a short conference. Watches were appointed and upon Cummings' suggestion a special couch was laid beside the controls for the navigator to rest upon when the acceleration became too great.

The hours slipped by and the twin suns of Dunsaan reddened into oblivion. The weird color changes of our speed became apparent all around us; only the *prolo* showing dimly ahead retained its true hue.

At the end of four hours Hawkins was relieved by Milroy. Hanavan and the rest of us took sleeping potions.

When I awoke ten hours later the sky was a dead black. Dr. Cummings at the controls was lying flat on his back, staring upward through the glass roof at the other *prolo*. Looking around I discovered everyone else to be asleep. The ship was perfectly quiet, and save for the lights on the instruments, dark. For a long time I lay still, my eyes upon the dim form of our guide. I noted that we were considerably closer, evidently because of the difficulty of seeing. The lights in her control room glowed like a big star, hovering motionless in a velvety immensity.

Somehow I felt an interest in the occupants of the ship. I wondered who they were and what they were doing. It

reminded me of watching boats pass one at night on the ocean; only here the ocean extended to infinity and that friendly light ahead was our only link with life. My mind filled with thoughts like these, I had begun to drowse off again when a violent lurch of our *prolo* half threw me from the bunk. Hastily regaining my feet I saw that Dr. Cummings was sitting up, gripping the control levers tensely, and staring upwards. I followed his glance to see the ship ahead moving swiftly sidewise.

"Changed its course," hissed Cummings. "Wake the others . . ."

I started to do this when Cummings countermanded his order.

"All right now. They're going straight."

I relapsed into a dozing state again.

I do not remember how long we followed the *prolo* across space. It may have been a couple of weeks, but I am not sure. After eight or nine days the other craft began to decelerate. Almost crashing into her, we did likewise. Lord Hanavan was greatly disturbed.

"It took four weeks acceleration before we were halfway to Dunsaan," he explained. "If we start to decelerate after only a week or so it means *that we are not going to the Earth!*"

Beyond any hope now we followed our guiding star that was so false, through all of its many maneuvers for over a week, steadily slowing down all the time. Stars began to reappear; they passed through the colors of the spectrum and became fixed. It was apparent that we were either moving extremely slowly, or were stationary. But nowhere was there a sign of a sun or a planet! The *prolo* before us hung motionless in the sky, as if waiting for something.

Waiting. But for what? Time only could tell. We put in the hours as best we could, installing more instruments and a little rapid-fire gun which Sir Percy had acquired. It was mounted in an airtight chamber, built in the control-room floor, with its muzzle, when ready for action, projecting into the vacuum of space. Hawkins entertained us with stories of escapades in London during his youth . . . One always watched the big *prolo*. We hardly noticed that our weight had dropped to nearly zero.

Three days passed in this fashion and then, while we were listening to one of the Frenchman's stories, Hawkins on watch called out,

"Ahoy there! There's hanother blinkin' *prolo* 'ard haport, an' hup a few points."

The Frenchman's story was suddenly interrupted. Looking in the direction indicated I made out the fish-like form of another space ship slowly approaching our guide. The latter made no movement. For some moments we watched this meeting and then Milroy, with his glasses, made out two more *prolos* dropping slowly downward from above and behind us. Soon these were visible to the naked eye, and more had materialized out of the void. All assembled with the first ship in long lines. It suggested battleships arranging themselves in a convoy. At once we thought of that overheard conversation back on Dunsaan. The war . . .

CHAPTER XI

On Kanan

IN scores now the *prolos* silently appeared and fell into place. Huge craft—one had a feeling that they were not passenger or freight ships—and droves of smaller ones, some no larger than ours. It was like a review or a parade. Engrossed, I watched the lines form and then start slowly away. Now upon each ship there appeared a blaze of light, a signal of some kind. I became conscious that Milroy was speaking.

"I say, if we can get in with those fellows, they'll think we are in their party. Let's go over to that group of small ones above and get into line."

It was a good suggestion. While Hanavan, who was the best navigator, operated the controls, the rest of us cleared the boxes of food and fuel from the control room to make it look shipshape in case anyone should look into our glass roof.

The ten miles or so to the swarm of small *prolos* was soon covered; Hanavan deftly maneuvered our craft into line and then, following the blazing light of a leader, we picked up speed. Weight returned with acceleration and within three hours Doppler's effect had extinguished every star. But now, before and behind for thousands of miles, we could see a miniature Milky Way, the pilot lights of the fleet. It is a wonder to me now that we were not discovered at once in our deception. Our ship had no signal lights, nor neon-tube number outside, and for all we knew might have been crowded into another craft's place. But whether by accident or carelessness, we were not apprehended. The immense fleet numbering many thousands, swung majestically across the sky, our little fugitive *prolo* a part of it.

For six days we accelerated; then reversed and commenced to slow down. Another six days and we would come to a stop. Then—

Five passed. The stars reappeared magically and, evidently to prevent confusion, the artificial stars of the fleet commenced to blink.

Ahead of us a misty glow like a dim nebula came into being. The line of lights pointed in its direction. We felt a certain tenseness . . . Something seemed about to happen.

Something did. In empty space about fifteen miles ahead there was a terrific explosion. A gigantic sheet of greenish flame spread soundlessly, enveloping a dozen *prolos* in its folds. For half a minute it lay across the sky and then faded away, leaving the battleships twisted, redly glowing wrecks. Instantly along the line little pin points of blue fire began to appear. For five minutes this continued, then ceased. A pause . . . then far, far to one side the sky was lit with tiny green flashes of flame that grew and faded. We waited, amazed. Then, without warning, another sunburst of fire leaped up, closer this time, for I distinctly saw a sixty-foot craft like ours crumple and grow red hot a mile away. Now the little blue sparks began to fly in earnest. Every battleship fairly glowed with them. In the distance came the answering flame bursts. Suddenly we realized what we were witnessing. Our fleet was in battle with the enemy. Men were being killed by the thousands around us, and at any moment we might be engulfed by one of those gigantic shells.

Now I noticed that our fleet had divided itself into two lines; one was turning toward the invisible enemy while the other, in which we were, continued in the direction of the round nebulous patch.

Not disappointed at leaving these rather dangerous pyrotechnics behind, we increased speed again. Lord Hanavan filled the little gun's chamber with air and, after going over directions again, loaded it. It would fire two thousand shots before reloading would be necessary.

Two hours passed. The battle had vanished long ago. Our half of the fleet, barely moving, neared the destination. Its luminous corona now filled half the sky, while in the center we could discern a ball about the size of a full moon. Dr. Pfeiffler suggested that it might be the planet Kanan.

Now there was a change in the fleet's formation. The line turned, presenting its length to the planet and forming a wide crescent, advanced. Thirty minutes passed. Slower and yet slower went the armada, as though its commanders were suspicious. Without warning every light vanished. We turned out our cabin lamps, depending upon the dim glow from outside. And then in front of the crescent, the sky became a green inferno. By the hundreds; by the thousands, the enemy shells burst. Some *prolos* more advanced than others were destroyed, while right and left the ships glowed again, this time with the fleet's answering fire.

The planet's atmosphere became speckled with green. Then the crescent hurled itself forward. Flinging himself upon the controls Hanavan urged our little craft on too, while he shouted to Hawkins to be ready at the gun.

"We're in it now!" he cried. "It's fight or die!"

There was no time for thought or reflection. Though all was silent save our own excited voices, I could imagine the roar that would sound if there was air. On we rushed, sometimes surrounded and once actually touched by a green flame. Ships on either side went down—but still the thousands of the Zongainian fleet poured in. The planet grew until it filled half the sky and a faintly audible whistling betrayed its outer atmosphere. As we descended the air grew luminous . . . I caught glimpses of streaks of lightning, but whether these were a natural phenomena or part of the battle, I cannot say.

Near our little *prolo* we saw another battleship, huge, shadowy, slipping ghostlike through cloud banks. Through the windows came the first thunderous echoes of the battle, now louder as the air grew denser. Suddenly we saw other space flyers below, like a shoal of whales. They sprang into life the instant we sighted them. Spurts of green flame came spitefully from their sides and shells, with heavy concussions, burst about the Zongainian ship. The air waves threw our little craft about like a chip. The Zongainians, still dropping, returned the fire. I had the satisfaction of seeing one of the enemy turned end upward and drop. A faint crash, arising from the depths, told of its end.

FOR five minutes the air was filled with bursting shells. The Zongainian *prōlo* now had a gaping hole torn in her side . . . her drop was becoming more pronounced. Lord Hanavan directed the nose of our tiny ship toward a battleship below and I pushed the firing button. The other was immediately surrounded by a ring of fire and backed away, evidently disabled. But now the ground appeared. Clouds of smoke obscured the view, so we got only an occasional glimpse of Titanic buildings, grotesque twisted masses of wreckage . . . shattered battleships . . .

The Zongainian, her stern dropping lower and lower, struck against a tower. With a roar the mass of masonry fell, and then the *prolo* giving a last burst of fire fell heavily into the city, leaving a dozen buildings in ruin in her wake. At the same instant there was a blinding flash of light, an ear-splitting concussion, and amid a shower of broken glass and hot metal our little craft fell into the chaos below. With this all consciousness of the battle ceased for me.

My return to the land of the living was preceded by a tortuous succession of nightmares, in which I was pursued across a limitless blue void by a pack of steel monsters with gaping jaws. Flames darted from their mouths and bolts of lightning, like pointing fingers, indicated me to my relentless enemies. After an eternity of mad chase across space, I began to hear a faint pounding, a metallic ringing like a blacksmith's anvil, interposed with heavy dull thumps. Strange odors were wafted to my nostrils and, as if at a great distance, I heard the confused voices of many people. Gradually I became conscious that I was lying on my back on some kind of a couch, and that my limbs and head were curiously numb and heavy feeling. For some time I lay still, not opening my eyes, and trying to remember what had happened last.

The vague meanderings of my mind were suddenly interrupted by footsteps, and a voice near at hand. It spoke in Zongainian.

"Well, how has time treated our six runaways? Have any more died?"

I could not quite catch the answer, but a sudden gripping feeling passed over me. Who had died? Making a desperate effort I opened my eyes, and then commenced to blink them in amazement. For an instant I thought that I was the one who had gone and that I was already in some trans-stellar inferno. I was lying on a narrow cot along with a hundred or more similar beds upon a steel shelf much like the gallery of a theater. Fifty feet overhead a twisted metal roof curved, ending abruptly in a long jagged tear. Out in front of our shelf was an area of crumpled space ships and shattered buildings heaped in an incredible confusion and, as I discovered by hard peering, covered with hundreds of tiny men who were clambering about hauling on ropes, pounding and hammering and operating machines.

Now and then the light of some welding apparatus would glow like a firefly, sharply silhouetting its operator in the gray gloom. This amphitheater was bounded by a serrated scarp of immense buildings, all battered and seeming ready to fall at the least shock. After staring at this chaotic spectacle for some minutes I turned my head, observing that it was covered with a rubbery bandage, and looked at the speaker who had awakened me.

He was a tall Zongainian, dressed in a sepia cape and wearing a turban-like headdress. Seeing me move he came over to the cot where I recognized him to be our officer friend on the outward trip, Ver Vylgar Moti.

"A day," said he, using the universal Zongainian greeting, "or rather a night, for these Kanan days are hardly bright enough for such a term. Well, you seem to be on the way to recovery. We thought you were gone when we hauled you out of the *prolo*. How did you ever get here? We leave you safe in Dunsaan for life and in the next fifty days you come shooting right into the midst of the biggest war in ten centuries, and alive too!"

"What happened?" I asked. "Where is the fleet, and where are we?"

"In Kanan," replied Ver Moti. "As far as we know the Zongainians have won, but our battle *prolo* was disabled at the same time yours was. It fell into the city of Kanan. Our ethero communication apparatus was hopelessly smashed so we cannot call aid. The crew—about five hundred who are alive, not counting the hundred and twenty wounded—are trying to dig out a small cruiser and repair it. But have patience. Your wounds will be healed within ten days and in the meantime you need rest. If you persist in asking questions we will have to give you sleeping potions, like we did to your friend Ver Hanavan."

WITH a few more words delivered in a similar tone, Ver Moti left me with my thoughts and the contemplation of the scene before me. I wondered how serious the plight of the stranded Zongainians was. Their battleship which lay athwart two buildings in the background was wrecked beyond repair, and in the twisted chaos of the amphitheater, I could find no ray of hope.

At any moment a Kananese *prolo* might fly overhead and have the Zongainians at its mercy.

For an hour or so I watched the scene and then after drinking some warm milk-like fluid I fell into a sound sleep.

And so a week passed over Kanan with its eternal misty twilight and we lost souls in the hands of fate. D'Arcy, the Frenchman, had been instantly killed when the *prolo* struck; we others protected in a measure by the steel roof were only cut up generally by glass and torn metal. Injuries, which without earthly medical science might have proved fatal, or resulted in lifelong mutilations, were conquered by the wonderful surgery of Zongainia. And Ver Moti assured us that we would not bear a single scar as a memento of the mishap.

Each day more of our rubbery wrappings were dissolved off, until at the end of eight days everyone except Hawkins could leave his bed.

In response to our earnest wishes to help, Ver Moti finally conducted us to the headquarters of Vera Nadji, one-time commander of the battleship. Her rooms were located, as were the quarters of the crew, in one of the least damaged buildings facing the square.

Vera Nadji received us warmly, wanting to hear about our escape and considering it to be a joke on Commandant Muot.

Then becoming serious she told us more of the situation. The city of Kanan, capital of the planet of the same name, had been completely evacuated some time before the battle. Just where these people were—the city, she said, housed more than seven hundred millions—no one knew. The Kananese land army was somewhere about, but where, was a matter of conjecture. The *prolo* fleets of the two combatants, after the first engagement above the city, had vanished into space and might be still fighting.

The last word Vera Nadji had received was that the Zongainian First Fleet had the enemy on the run. Since that time, eight days ago, she had heard nothing. The cloudy sky remained empty; the immense city deserted.

The only hope of the crew lay in a damaged hundred-and-fifty-foot cruiser which was half buried in wreckage across the square. Here the technicians and mechanics from the Zongainian battleship worked continuously. Chemical blowtorches made the steel and concrete debris flow like water, while the engineers patched and replaced the machinery inside.

As soon as we were recovered we all went to work shoveling concrete to make a landing place. We worked almost frantically, watching the foggy sky with one eye, and by a sort of mass suggestion praying patriotically for Zongainia's success. We were so much like ants struggling there in that Titanic city. Its thousand-mile streets impressed me, at least, much more than the millions of light years of the universe.

There is no night in Kanan's eternal half light and so I cannot tell in days how long we were there. It seems as though it might have been years. But Lord Hanavan who alone kept his watch going, is sure that this lull, if such activity might be so termed, did not last over three weeks.

At that time the small *prolo* had been disinterred and placed ready for operations upon the crude landingway. Fuel and other supplies were being rushed in by the crew and Vera Nadji, with her communication experts, was busy tinkering with the ethero receiving set, the remains of which had been recently installed on board. We escaped prisoners, who in the general democracy caused by the disaster were somewhat privileged characters, were in the lower storeroom, forward of the generators and coils, packing food crates on top of the condensers.

Overhead sounded a steady tramping as the crew crossed the control room with their loads. The air in the little windowless chamber was stuffy, and so after half completing our task, we sat down to rest. Hawkins said he wanted a drink and went outside to get it. The rest of us sat for about five minutes talking intermittently about something or other—probably our fate when Vera Nadji's crew rejoined the First Fleet.

I can remember that Prof. Milroy was making some remark about inscriptions he had found in a half-wrecked building, when utterly without warning, there came a deafening roar and a concussion that hurled us and our crates together upon the floor. The *prolo* seemed to almost stand on end for an instant and then fell back on its bed. For a moment there was utter silence and then a bedlam of cries and shrieks broke forth. We heard footsteps running back and forth above and some one shouting that Vera Nadji was wounded. Then all else was blotted out by another blast at a greater distance. It was followed by the slip and thud of falling masonry and a long-drawn tinkling as of glass. We lay for a few seconds, partly stunned by the first explosion, and then Lord Hanavan shoved a box to one side and scrambled to his feet.

"Another battleship . . ." he started to explain, when a lurch of our craft made self-preservation of prime importance. This time, however, the *prolo* moved by herself; a hum from the motor-room told that we were rising.

CHAPTER XII

A City of Terrors

PICKING ourselves up as quickly as our bruises would permit we hastened to the ladder leading to the control room. Above was a scene of indescribable wreckage. All of the "non-breakable" glass from the front windows was lying in tattered shreds on the floor. The instrument panel was buckled against the partition, while the wind whistled through hundreds of rents in the steel sheeting. About a dozen people were in the room, some of them with blood streaming from open cuts; one was in the navigating seat, while others were at work upon some kind of a gun.

A mile below were the towering buildings of the city and almost directly underneath hovered a thousand-foot *prolo*. As soon as we appeared Ver Moti, his face bloody from a cut, leaped toward us and shouted to bring up a power cable. He made a vague gesture toward the gun and then below. "Kananese . . ." he added hastily. "Surprised us. They are bombing the camp . . . haven't discovered that we are gone yet . . ."

At that instant another figure appeared, one arm held limply against her body. It was Vera Nadji.

"Use bombs," she snapped at Ver Moti. "The auxiliary coil is out. Can't spare power for the gun. Drop a *kanfrene* on them . . ."

Ver Moti fell back a pace, his face whitened. "But," he stammered, "our comrades . . ."

"They will have to take the chance if they are alive yet," answered the commander. "Let the Kananese know we are here. We can lead them away from the square . . ."

Ver Moti left on the run, without another word. Cowering back into the passageway we watched the proceedings.

Ver Moti leaning out under the broken window pointed a small gun down and fired several times. Sticking my head from a porthole I saw tiny green flashes on the

back of the battleship. Immediately our craft wheeled and rose sharply, while the enemy commenced to ascend. In response to the navigator we swung sideways to take advantage of the floor propulsion plates, and then shot off at an angle. A second after we had started, the air behind turned a brilliant green with bursting projectiles.

Now the chase began in earnest. The battle *prolo*, moving ponderously, filled the air about us with shells, while it arose from the Zongainian encampment. The crew of the small *prolo* lined up at the windows and returned the fire with their hand guns, but apparently without effect. While this was going on I noticed Ver Moti coming up from the storeroom with a small metal case. With remarkable care he laid it upon the floor and took from it a small black bottle.

Drawing Vera Nadji back he handed it to her saying, "Better do it soon. They may get us any time."

She replied something we couldn't catch, and then began to issue commands. The *prolo* turned sharply about and started back, ascending above the larger ship. With a feeling of horrified anticipation I kept my eyes glued upon the tiny oval phial in Vera Nadji's hand. Now I saw that Ver Moti had taken several more from the box and was passing them out to the crew. One by one he gave each man a bottle and then came over to us.

"Here," he said, "*kanfrene* bomb. If everyone else misses, throw it. Wait until the last . . ."

At that instant the ship commenced to climb again and Vera Nadji shouted, "Now!" From the front window I saw her arm flash out, hurling the little bottle outward and downward. Breathlessly we waited as second followed second. Then on the roof of a building just below the enemy craft a volcano seemed to erupt. An immense sheet of flame leaped up completely enfolding the battleship. I glimpsed skyscrapers going heavenward *en masse* and then the sound wave hit us.

Just what happened to the Kananese battleship I do not know. We five earthlings who possessed no sea legs at all landed on the floor *en masse* too, and while we were picking ourselves up the *prolo* left the vicinity of the explosion at a velocity of three thousand miles per hour. Later Ver Moti told us that the enemy craft was probably melted by the heat. *Kanfrene*, he said, was a Zongainian word meaning "bad atom," and its explosive violence was due to the release of atomic energy.

After the destruction of the Kananese battleship Vera Nadji did not linger in that part of Kanan. Other *prolos* were sure to come and then all would not be "restful to the nerves" as Ver Moti put it.

After an hour or so of traveling above the city, our commander ordered a descent made upon a gigantic and partly-wrecked landing stage. Surrounded by thousand-foot beacon towers it lay, a plateau of metal and concrete a dozen miles long, athwart the roofs of a hundred buildings. Seen from above we could make out that one end had sagged downward, possibly from the collapse of some structure below. Here and there amid the twisted girders and crushed masonry lay a glittering pond of mercury, spilled from the shock-absorption cylinders.

Under the guidance of Vera Nadji herself we dropped vertically past the towers, and finally more than two hundred feet below the stage floor we settled to rest in one of the larger mercury lakes. It was the ideal retreat for the repair work we had to do. The thick-walled buildings with their round windows arose on three sides, while on the fourth we were sheltered by the overhanging platform above. Almost as soon as the motors were stopped we all set to work on the little *prolo*.

A foraging crew was sent out to cut sheets of flexible glass for the torn windows, while a marvelous electric welder did wonders patching up the crumpled side of the roof. No less efficient was the bandaging applied to the cut and bruised crew; the blood was washed off, the wounds expertly closed by the ship's surgeon and a syrupy liquid, which immediately congealed to a flexible transparent solid, was poured on.

EVERYONE turned to, even we outsiders, finding jobs. Lord Hanavan was soon an expert glass fitter, while Prof. Pfeiffler and I found work feeding flux into the hopper of the welder.

The scene is one which will remain long in my memory. The towering steel columns of the landing stage, the black immensity of the abysmal streets; and reflected brilliantly in its bath of mercury—that wonderful machine which had brought us hither—the *prolo*. Over the whole scene flickered the green lights from the welding machine, while the toiling Zongainians cast hundred-foot shadows on the building walls. Their low voices and the occasional clang of metal on metal were the only sounds in all the city. All else was grey, silent, forbidding.

After seven hours of work, Vera Nadji at the welding machine gave the command to rest. Tired and hungry we crowded into the control-room where food was served. Here the first mention of the future was made. Our commander, finishing her gelatine hurriedly, stood upon the navigating chair and spoke. Her words were calm, confident of success.

"Within a day and a half," she said, "we can return to the pit. We will take on all of our comrades who still live and then seek the fleet. Let us hope that Zongainia has given these Kananese a demonstration that they will not forget."

Later, while most of the crew slept, our old friend Ver Moti explained in a low voice the cause of the trouble between Zongainia and Kanan.

I cannot remember all the complicated reasons he gave, but the basic cause seemed to be trade rivalry. Property of the Zongainian "Interstellar Transport Association" had been confiscated by the Kanan government under pressure of the Kanan Transport Company, and demands for reparations met with diplomatic insults. The trouble was of long standing, evidently. There had been friction between Kanan and Zongainia since the first Zongainian space ships had landed there.

"That," said Ver Moti between yawns, "was around the year 1350 according to the Christian calendar." Ver Moti fell asleep in the midst of a discourse on price wars between planets, but it did not bother us in the least because we were already far away from interstellar battles, dreaming of a snug little planet that lay in sunny ignorance of the giant universe that lived and fought around it.

"Morning" brought fresh labors for all. While repairing the auxiliary induction coils it was discovered that the supply of wire was exhausted. This seemed a rather insurmountable difficulty, especially as we had no wire-drawing machine. But Vera Nadji, the resourceful, had the solution. In the buildings around and below us, she said, was enough wire for a million *prolos*. After some discussion it was decided to send Lord Hanavan, Prof. Milroy and myself to get it, as we were about the least useful members of the crew.

Preparations for our departure were simple. We were given wire cutters, electric light and some concentrated food for lunch. Ver Moti stopped work long enough to tell us where to look for wires, and then after solemnly shaking hands with Cummings, Pfeiffler and Hawkins, we took our departure.

Prof. Milroy was delighted with the opportunity to be

alone. "Finally!" he cried, rubbing his hands together, I can study those inscriptions and the buildings! What we might find inside them! What contributions to anthropology! Oh, we shall have a day!"

After which he almost fell into the pond of mercury and so became silent for a time.

Scrambling over the heaps of debris, we soon entered the nearest building. Lights on, we walked in a line down a vast echoing corridor which extended ever before us into the darkness. Now and then shadowy halls led off to one side into unknown regions, but a fear of losing our way kept us to the main passage.

The instant the *proto* was out of sight and sound, a cloak of gloom seemed to settle upon all. Not a ray of light penetrated the enormous structure and only the echo of our own hushed voices disturbed the silence. Everywhere the passageways extended like the vaults of a crypt, decorated here and there with garish murals of goblins, or whatever deities the Kananese had. Ahead our shadows marched; while behind the darkness crept in stealth upon our heels.

At first Prof. Milroy's scientific ardor made him oblivious to all save the decorations and inscriptions on either side. But bit by bit his voice became hushed until he only whispered an occasional monosyllable to one of us.

I tried to imagine the city when it was full of people, but somehow it was impossible. The concave floor suggested a sewer inhabited by rats only: while the hideous figures painted on the walls hinted of inhuman horrors around the corner. We tried to concentrate on the search for wire, but the eye continually wandered ahead where the shadows fled before our lights, or behind where they came after us. To one who has not been in the buildings of a deserted Kanan it is impossible to describe the formless terrors which grew upon us.

It was not a fear of death or of the supernatural. Indeed, had a live ghost appeared we would have welcomed him as a brother in this far planet. It was an unimaginable thing, a sort of sinister essence waiting, waiting, for us to descend beyond all reach of the Zongainians, when it would . . .

MY reverie was broken by the voice of Hanavan in the lead. "A light ahead. I think we have passed through the building, as Ver Moti said."

We hastened on and shortly were standing on a sort of

Whole rows collapsed as if a machine gun had been loosed on them. We continued whistling.

(Illustration by Paul)

balcony overlooking the street. Three hundred feet below it lay, two wide stone avenues with a canal in the center. Overhead the buildings soared perhaps a thousand feet. They were massive things with enormously thick concrete and stone walls, but somehow the entire scene lacked the mechanized, the civilized appearance of Zongainia's streets. Blocks of stone and a canal in the middle. No sign of machines or tracks or any of the appliances of science which marked the difference between a modern street and one of Rome or Babylon. One felt that it was primitive and incredibly old.

After spending some time on the balcony, Prof. Milroy found a passage running parallel to the street and separated from it by a wall pierced at intervals with windows. Down this we walked, the beam of Hanavan's light following the upper moulding. We had not gone fifty feet when out of a side hall there came a thin ribbon of metal covered with transparent insulation and fastened to the wall with some kind of glue. This we ripped down, cut and placed in a coil where it could be found on the way back. Then on again.

The hall descended gradually until after we had progressed a half mile, there appeared a large ornamental door leading directly onto the stone paving. With a sigh of relief we hurried into the open, away from the gloomy passage. At the edge of the canal were a number of flat slabs of stone and here we stopped to eat. According to Hanavan's watch we had been gone three hours and a half.

Lunch of Zongainian concentrated food does not take long and so, after doubtfully considering the canal water, we started out with our thirst unslaked. About a mile down the great street there was an intersection where we could make out a heap of wreckage and a mass of twisted wire. Toward this goal we turned our steps, following the canal. Once Milroy saw a large yellow eel-like thing in the water, but lack of lines or hooks saved it. And once we were all startled by a raucous squawking from the upper floors of a building. We never saw what kind of a creature it came from.

The distance to the pile of wreckage was much greater than we had estimated, for after an hour's steady tramping it was still quite a way off. Prof. Milroy grew tired and suggested that we try inside the building again. Accordingly we entered the nearest door where almost at our feet we found a big roll of fine wire, the ideal thing for the damaged induction coil. After a short rest it was decided to go straight through the building instead of retracing our steps the length of the street.

To a sane person this may sound foolish, but our nervousness had made us anything but sane. Our first relief at getting into the open was now replaced by a fear of being seen by someone or something hidden in an upper window—by some queer twist of reasoning we thought that by keeping to the darkest halls we might sneak through without being found out. Whatever it was we could hide from, I don't know, for during all the time we had been in the city we had found nothing alive.

However, we entered the structure and choosing a ramp leading in the general direction of the space ship, started up. We marched on for four solid hours thereafter without catching the slightest glimpse of light. The hall, now wide, now narrow, wandered on in a course gradually more tortuous. In the walls were innumerable round locked doors. Hanavan said they must be the entrances to apartments. Fatigue and a growing horror of our condition quenched any curiosity.

Near the beginning of the fifth hour after leaving the street we discarded the bundle of wire. Bitterly we cursed it and the day we set out on this mad adventure. A little later we came to a halt.

Physical exhaustion prevented further walking—no matter where we were. After discussing the question of sleeping in the open hall we proceeded to batter down one of the doors in an endeavor to find a reasonable amount of shelter. The door soon gave, but when we entered the chamber we received a terrible mental shock. Standing in a group in the center of a round chamber were four people; weazened, hideously yellow and all pointing or making some kind of gesture at us. We sprang back and Lord Hanavan raised the wire cutter—our only weapon.

The four made no move—they only watched us with glittering yellow eyes. For ten seconds we stood in the doorway as motionless as those before us, and then Hanavan slowly lowered his weapon. We peered closer and then Milroy managed to gasp out "They're dead! Embalmed! Stuffed!" The next instant we fairly tore out of the room and in spite of our exhaustion ran far up the corridor before pausing. Avoiding the now sinister round doors we finally huddled together in a remote corner of the passage. After extinguishing all lights, we lapsed into a fitful slumber broken by nightmares of pursuing fiends from dusty burial chambers.

CHAPTER XIII

In the Enemy's Camp

I WAS aroused some seven hours later by Prof. Milroy, who clapped his hand over my mouth and hissed, "Not a sound . . . something's coming!" I sat up hastily to discover by sense of touch Lord Hanavan on hands and knees, listening. For many minutes we waited, hearing nothing. Milroy insisted, in whispers, that he had heard footsteps and a dragging sound, and Hanavan once silenced us to listen long for the repetition of distant laughter. It never came. Perhaps it was the creature which had called in the street.

In any case it was apparent that unless we could soon escape from these endless passages we would go insane. At first we feared to put on our lights, but once it was done we felt better. The hall was empty as far as the beams would reach.

Before resuming the trek we had a short conference. Lord Hanavan wished to return to the street the way we had come, but Milroy and I opposed him. There were too many side tunnels, too many forks. And besides, the thought of passing that open door and the grisly statues inside would have deterred us.

It was finally decided that the best course was to ascend to the city roof where we could go in a straight line and find the wrecked landing stage more easily. But how to get there was the question. We commenced marching as we talked, keeping to those passages which had some upward slope. An hour or more passed this way when around a corner appeared a light. Hurrying to it, we found ourselves looking out of a window far above another street; below lay the same wide, double, stone avenue with the sluggish canal in the middle. But the cheering thing was the sight of a broad, flat roof less than fifty feet overhead.

Prof. Milroy essayed a weak cheer, and we started again. Less than a hundred feet brought us to the bottom of a ramp, at whose other end I could discern the grey sky. We fairly ran up that last passage. Abreast, Hanavan and I smashed the door open and sprang out onto the roof.

For some moments we fairly capered, so great was our joy at escaping, and then we commenced to observe our surroundings.

The ramp terminated upon a platform upon which we stood. On three sides it sloped gently down to a flat gravelly plateau, extending a hundred yards to the nearest street. Across that another building roof, at the same level, continued. Mile after mile the roofs extended, a vast plain crossed with chasm-like streets and dotted at intervals with skeleton-frame towers. Far away we could dimly make out through the mist a mass of immense buildings. Hanavan pointed to these and said, "That's evidently the 'down town' section. We are only in the suburbs."

Now that we were comparatively free, the next job was to find the *prolo*. This would have been simple except for the fact that we had not the slightest idea which way to go, and that the landing stage was nowhere to be seen. Hope ran high, however, so choosing at random we started along a street toward the nearest steel tower.

Hanavan's idea was to climb it, but after less than a half-mile we found the route blocked by a cross street. Somewhat discouraged we sat down on the parapet and ate a little more of the concentrated food. It occurred to us that it might be a good idea to be sparing. Some ten minutes passed, when Prof. Milroy leaped to his feet with a whoop of joy and, pointing skyward, commenced a wild dance. Following his arm Hanavan and I looked up past a steel tower into the haze, and there cruising slowly in our direction was the *prolo*. Crying something about the visibility of a moving object, Hanavan started running toward it in an erratic course. I followed, first spitting out in great relief the unpalatable Zongainian food tablet.

The *prolo* evidently sighted us immediately, for it accelerated and dropped lower. As it neared us I saw a door open on one side and several heads appeared. Suddenly I collided violently with Lord Hanavan. He was standing still, wildly beckoning to Milroy, a hundred feet ahead. Out of breath, he turned to me. "That's—that's not the same *prolo* . . . larger . . ." Not comprehending his words, I looked more closely at the now near craft. It *was* larger and of a different design. The next instant it was hovering thirty feet above us and I could see the faces peering down. They were angular . . . yellow . . . foreign looking.

Swiftly the ship descended until its landing rail grated on the roof. Immediately a dozen men sprang out, all armed with the tiny Zongainian small gun. In Zongainian they cried, "Who are you? From what *prolo* do you come?" Struck by a sudden fear we could not answer at first. The leader of the party appeared to become angry, and then he commenced to laugh. The others joined him, giving vent to a high-pitched cackle.

"Oh," he chuckled, "you are surprised to find a Kananese cruiser above Kanan? You thought they were all wrecked or captured by your invulnerable First Fleet? Ha, but you have much to learn! The First Fleet, the mighty First Fleet won't be boasted of much longer!" And with that he burst out anew until he fairly wept.

Now indeed, we knew the fulness of our misfortunes. No sooner had we found our way from the city than we walked like very babes into the enemy's arms.

WHILE the Kananese were still indulging in their hilarious glee, Lord Hanavan addressed Milroy and me in a low voice in English. "Don't mention Vera Nadji and the ship or they'll get them all. Say that we were marooned by a Zongainian battleship. Make them think we're friendly . . ."

The commander, attired in a long yellow robe, approached us.

"Come, my friends from Zongainia," said he, "you must not keep a cruiser of the Imperial Kanan Fiong waiting. You are going to have a rare honor; that of witnessing the end of your countrymen. You shall see the flagship *El Zongainian* itself crumpled to molten wreckage. Oh, it will not be long! Come!"

The crew closed in about us and knowing that resistance was useless we followed.

The *prolo* immediately arose vertically to a height of many miles, affording a wide view of the city, and then proceeded in a horizontal direction. He, of the yellow robe, approached.

Bowing to us he spoke, suavely.

"May I introduce myself. I am Ver Unkar, 19th Inman in the Navy of Lao Refi, Imperator of Kanan, Owner of All Souls, Arbiter of Life and Death, and Future Emperor of Zongainia. Have you names, Zongainians?"

Lord Hanavan, as spokesman, drew himself up and replied: "You are mistaken. We are not Zongainians; but unfortunate explorers from another part of their planet, who were dragged into this conflict against our will. We make no cause with them, and desire only to return."

The Commander, Ver Unkar, commenced to laugh again, and then stopped. "I would not believe you but for your complexion and accent, but you may be right. We shall see when we arrive at our citadel. Now to the point. We find you wandering, like lost *shivars* on the roofs. You could not have flown there, therefore, the Zongainians must have left you. I judge you don't like your abductors any too well. So tell us all about it, and Kanan may return you to your world when its fleets sweep the universe of Zongain scum. What have they done to you?"

I had known Lord Hanavan for an archæologist and explorer, but I confess that during the next half-hour he impressed me as being a first-rate actor. He described our adventures minutely and alluded to El Zoia, Ver Moti and the others in terms that would hardly be complimentary to them. He ended by describing how we had been ruthlessly cast away to die in order to make more room on the *prolo*. Ver Unkar listened sympathetically, his yellow countenance expressing a variety of emotions, from anger to fierce joy, as we described the bombing of the Zongainian encampment.

When Hanavan was through, he asked us many questions bearing upon the size and strength of the First Fleet; its system of cruising and of attack, and other points, all of which Hanavan answered in the fashion designed to give about all the information on what the Zongainians did *not* do.

After the interview we were fed, a meal more earthly than we had tasted for many days. Then we were securely locked in a tiny windowless chamber by Ver Unkar.

As soon as our captor's retreating footsteps had died out, Prof. Milroy spoke:

"Now we are in for it. Everything we do gets us farther from any chance of return."

"Somehow," answered Hanavan musingly, "the soft words of these Kananese are more foreboding than the open threats of Zongainia."

Prof. Milroy made an effort to cheer up.

"At least we will have an excellent opportunity to study a most interesting species at close range. And then, too, we shall eat—which is something. You know," he continued, warming to the discussion, "these people impressed me as being Mongolian—yellow skin, angular features . . . I would like to study one's skull . . . And did you hear them talking among themselves? Their language—it was quite unlike anything I have heard—like the chirping of birds. They seemed to talk on a regular

musical scale. If we could only get a record . . . My! Perhaps it will all turn out well after all."

"They seemed," said Hanavan, "to have some plan up their sleeves to finish the Zongain fleet. There is no reason to favor Zongainia, but I have a feeling that it won't improve our chances to have these Kananese win. I wonder what they are going to do?"

He looked at Prof. Milroy as though expecting an answer, but that great savant was busy with a pencil, writing musical staves on the wall and singing scales softly to himself. Hanavan ceased his discussing and we proceeded to take an inventory of the room.

After the passage of nearly two hours there was a change in the motion of the Kananese cruiser; it ceased its forward movement and dropped rapidly for a time. Then it decelerated; started again, moved horizontally, until finally a sharp jolt told us that it had landed. Outside our door were footsteps and voices, sounding like soft flutes running up and down *arpeggios*. We waited as patiently as possible until finally a hum sounded, the bolt was magnetically withdrawn and Ver Unkar entered. He was very businesslike and seemed worried.

"You will be conducted to the Intelligence Bureau—they will have complete charge from now on." He peered into the room suddenly at Milroy's musical notation, his eyes opening wide in surprise. "You speak Kananese?" he demanded, suspiciously.

"No." Milroy discovered that he did not know the Zongainian word for music, so he mumbled, "mathematical game," and hurried to our escort in the hall.

AS we were marched into the control room of the ship, Lord Hanavan, attempting to take a cheerful attitude, commenced to whistle Tipperary, when Prof. Milroy seized him by the arm. "Don't do that!" he hissed.

"Why?"

"Don't ask me," responded the other in the same low tone, "but don't sing or whistle. Our lives may depend upon it!"

Led by four tall blue-robed Kananese sailors and followed by a similar number, we descended from the *prolo* to the secret citadel of the city. The craft lay with many others on the floor of an immense room, through whose roof we had evidently come. This chamber, which must have been fully two miles square and eight hundred feet in height, was filled with toiling Kananese. Here and there weird machines shot sparks into the air. But save for the voices, there was none of the noise usually associated with a repair place. But the voices! They were indescribable. It was like the tuning of a vast reed orchestra, or the sound of wind in the pine forest. Nearby groups of workers could be distinctly heard "tooting" softly up and down the scale to each other. But the more distant voices merged together into a soft rhythmless music, rising and falling in cadences like the echoes heard in a sea-shell.

For several moments we three hesitated spellbound at the gangway, taking in the sight and sound until our guard, puzzled as to the wait, indicated by gestures for us to move on.

My recollections of the Kananese citadel are exceedingly vague. I remember that it impressed me as being huge, barbaric and very old. The rooms were built of stone instead of composition material; while the more modern electric wires were glued along the moulding, as though placed much later.

The passages through which we were conducted to the Intelligence Bureau were filled with busy men and women. Everywhere the place buzzed with industry; each turn unfolded wider vistas of machine shops, forges and laboratories. The ancient halls fairly echoed with the piping of the laborers.

We did not have to wonder to what end all this activity was directed. Ver Unkar's words stood always before us "the First Fleet . . . won't be boasted of much longer."

After a quarter-hour's walk our escort halted before an imposing black stone doorway. On each side stood guards, with whom the blue-robed ones parleyed. After a pause the door swung open and we were admitted. Within was a sort of anteroom whose sole occupant was a short, stocky man in a brilliant red cape. As we entered he swung about and scrutinized us closely. He seemed to start the least bit as his eyes rested upon us, and then he spoke to the leader of the guards in Kananese.

Another wait. The man in the red robe strode impatiently up and down, paying utterly no attention to us. The eight guards leaned against the walls and chirped quietly among themselves. Finally, a small door at the other end of the room opened and the yellow face of a Kananese protruded. Immediately "Red Robe" entered and the door closed.

Hanavan and I sat down on a black stone bench, while Prof. Milroy edged nearer the guard, with his ears cocked. Twenty minutes passed, when the door opened again to let the man in the red robe out. Keeping his back to the door, he walked straight toward us. As he neared the bench he held out one hand in which I saw a folded piece of paper. Then he spoke in Zongainian:

"The examiner will see you at once, Zongain dogs. See that you pay him respect!" After which he swept out the door without another glance. But upon the polished floor at our feet lay a tightly-folded bit of paper. Looking sideways at the guards, I stood in front of Hanavan—hiding him for an instant—and then we all entered the door at the far end of the room.

The interview with the examiner was short and almost identical, as to the questions, with that of Ver Unkar. Lord Hanavan did all the talking and managed it quite adroitly, but for some reason or other the examiner did not take kindly to us. Dressed in a bizarre uniform and head-dress he scowled more and more darkly, and finally cut Hanavan off short.

"Don't go any further," he said, "you are probably lying anyway. So you want to be sent back to Zongainia to tell where our stronghold is? You will consider yourselves fortunate to live—if you do. I'll take no chances on spies here."

He laid his fingers upon a little key, whereupon the door opened and we marched back into the arms of the guards.

Ten minutes later we were listening to their fading footsteps through the iron doors of a small, vaulted stone chamber.

CHAPTER XIV

The Mysterious Message

THE instant they were gone Lord Hanavan dug in his pocket for the piece of paper the man of the red robe had dropped. On it was inscribed in angular Zongain characters:

"Keep courage. Work is done here for Zongainia. Watch and listen."

We reread it several times and then Milroy commenced humming in a wandering, tuneless way, while his brow wrinkled with thought. Lord Hanavan carefully destroyed the note, making some remark about an uncomfortable place. I contented myself with examining the chamber minutely.

The room was constructed of square blocks of grayish stone, and from the worn appearance of the floor, had been in use many years. From the vaulted ceiling hung a single glow lamp whose wire entered by the ventilator. Dragging one of the benches under this I poked my arm into it as far as I could reach, but encountered only the stone sides of a rectangular tunnel. A gentle draft of warmish air came steadily in.

After a bit we talked together of Kanan, of the Zongainian fleet and of the mysterious man and his note. Lord Hanavan became reminiscent and described his house in London, his club, an elephant hunt in Burma, the unwrapping of a Pharaoh's mummy.

Prof. Milroy wound up his watch.

We wondered what Dr. Cummings, Pfeiffler and the little Englishman were doing. And we wondered who was going to win the war.

An hour or more passed; Lord Hanavan was yawningly suggesting that we get in some sleep, when there sounded a gentle scratching at the door. We rose to our feet. By its very slowness the sound suggested stealth. We moved so as to be behind the door when it opened. For twenty seconds the intermittent scraping continued, and then the door soundlessly swung in. A head appeared; glanced at us and then as quietly the door was closed. In the center of the room, finger on lips, stood the man in the red robe.

We waited, saying nothing. The other appeared to be listening, and then breaking into a smile he spoke:

"It was rather risky to come here so soon. But they are suspicious; they might move you any time before I could see you. It is necessary for you to know what to do."

Hanavan started to speak but the other cut him off.

"I know what you want to say. I understand your curiosity—but time presses. You can tell about yourselves later. You are Zongainians; that is enough for me. Listen carefully."

He paused, stepped swiftly to the door, and then returned to us.

"The Kananese scientists have discovered a magnetic beam which has the effect of crystallizing any steel coming within its field. It can turn the most highly-tempered steel into a mass of brittle crystals in a second. Unknown to Zongainia, the Dictator, Lao Refi, has had built a gigantic magnet projector. It is their plan as soon as everything is ready to send a part of their fleet to attack the First Fleet out in space; to retreat to the citadel and drop to shelter behind a magnetic screen. Then the great beam will be turned on our ships, changing their girders and steel plates to crystals. The *prolos* will simply collapse.

"The mightiest guns, the thickest armor, will not save them from destruction. Not only will the entire First Fleet be lost but El Zoia, who has come on board the flagship *Zongainia*, will be killed. The projector is above the repair shops—it is . . ."

He stopped suddenly and then opened the door a crack. He turned to the room for an instant, whispering:

"Guards coming. The fleet must be warned. If I am captured . . ." he broke off and darted into the hall. With a soft click the metal door closed.

We had no time to cogitate upon this rather surprising interview, for within less than thirty seconds five Kananese soldiers and an official-looking person with a black, kimona-like costume entered.

"I have been sent by the examiner," said he sitting down upon the bench. "When our great Emperor, Lao Refi, crushes Zongainia, he will open to your world the boon of Kananese civilization. No longer will your countries remain in the ignorance Zongainia has cast upon you. Your warring nations will be united under a Kanan government; we will manage all. Now the mighty Lao Refi does not wish to act without due consideration of his subjects, so I have come to learn of the customs of this little planet that our Governor may know whither he goes."

After this rather elegant, but suspicious introduction, he of the black robe rubbed his fingers together, glanced at the five guards lined before the door, and then commenced:

"You, Ver Hanavan, are from the Empire of England?"

"I am from England."

"It is the mightiest nation of Voya, is it not?"

"One of the mightiest."

"And you, I understand, are among its greatest?"

"No. My title is hereditary."

The other paused, regarding the ceiling. Then . . .

"I would be interested in securing a cross section of life in England, for statistical purposes. May I ask, what is your average day?"

Lord Hanavan looked annoyed.

"I don't understand you," he replied.

"What do you do when you awaken?"

"I arise." The other glanced sharply at him.

"Don't be facetious. You dress, and then order your palanquin—"

THE word had to be defined. Hanavan explained carefully that palanquin's were not used in England.

"I beg your pardon. What does one use in England?"

Hanavan paused a moment, seeking a translation, and then replied with the name of the small Zongainian land vehicle—the *lokeg*. The man in the black robe raised his eyebrows as though noting something, and then visibly masking his thoughts he proceeded.

"Possibly before you order your *lokeg* you send messages across the city by runners to friends or business associates?"

This time our friend knew the word. "No, I would use a telephone."

Again the Kananese raised his eyebrows. His voice became softer and he leaned forward as he asked the next question.

"And if perchance the day is foggy, your servants light candles—"

"No. They would turn on the electric lights. May I ask to what purpose is this interview?"

"Its purpose," murmured the other, "is almost fulfilled.

"One more." He smiled at us in an oily way, as though pleased with himself.

"Should you wish to hurry across the waters to France, you would bargain with some worthy fisherman for your passage—"

"Your question is senseless . . ." started Hanavan, and then at another steely glance from our inquisitor, he shrugged his shoulders. "I would buy a ticket on a . . . a motor glider."

At this hastily compounded Zongainian phrase, the Kananese abruptly stood up.

"That is all," he snapped, "come with me."

Vaguely alarmed over this odd visit we followed the guards down the great hall.

It was soon apparent where we were going, for less than ten minutes later we found ourselves face to face with the now glowering examiner. A few words were exchanged in Kananese between the black robe and the examiner, and then the latter turned upon us.

"Spies! Liars! Zongainian snakes!" he spat out, "You hope to fool us? Ver Iod was too clever for you.

He has been to Voya, to England, only forty years ago. He questions you and suggests things that were done there two hundred of your years before, but you, who think you are wary, reply with tales of what may not be in England for another hundred years. Know, careless fabricators, that there are no *lokegs*, nor motor gliders outside of Zongainia.

"Know you that the brave Iod saw naught but wagons pulled by animals, in England? Know you that the Voyians use mineral oil for lights and not electricity? If you are the best spies El Zoia can send, then Zongainia is verily a nation of imbeciles!"

We listened, dumfounded, to this tirade. It was soon clear what mistake had been made. The Kananese had endeavored to trap Hanavan into an ignorance of his supposed native land, but because we were forty years ahead of the England Ver Iod knew, we were suspected of lying! It was no use denying, for the examiner's crowing might easily be turned into wrath, and in the present circumstances that was not to be desired. Lord Hanavan shrugged his shoulders and replied that he depended upon the righteousness of our cause and the examiner's justice.

That person was somewhat mollified by this and informed us that the justice of the noble Lao Refi and his administrators was infallible.

No more questions were asked and no information as to our disposal was volunteered. Our curiosity did not cover that topic to the extent of asking possibly provoking questions, so the three of us were marched out of the office without further ado.

We met the escort in the antechamber; they formed before and behind, and out the door we went. In the hall the front half of the escort paused, their backs toward us, while the rear section was getting out of the door. At this instant I felt someone bump agaist me and a hard cold object was forced into my hand. Startled, I turned in time to see a man attired in a dull gray cape, vanish into a nearby doorway. Without looking at the strange package I jammed it into my tunic and came into step.

We were taken this time in a different direction, and to judge from the steady climb, somewhere near the roofs. Finally we entered a corridor above which sounded the subdued hum of some sort of electrical machinery. Oddly one of the guards offered information. "Transformers for welding machines," he said. I did not believe him.

The march soon ended in a tiny metal-walled room with a thick iron door. The solid thud of its closing carried away any hope of escape. We were here for keeps.

BY this time we had become so used to mysterious happenings, or rather our senses so blunted, that I showed Hanavan and Milroy my package with little excitement. It consisted of a curious-looking revolver-like instrument and the usual roll of paper. But this time the message was of interest.

> *"Zongainians: Whether you are El Zoia's agents or not, I do not know, but in your hands now rests our victory or ruin. You are in the strongest prison room in all Kanan. The walls and door are of tempered steel. Guards will come with food within one dek. Then is your chance. Make your way to the projector as I direct. This weapon, if you know not its operation, will throw projectiles twenty to the second, when the thumb button is pressed. I can do no more. My capture will occur within a quarter-day at the most. I give you my equipment and the blessings of Meta."*

There followed some directions for finding the magnetic beam apparatus and a roughly-drawn diagram. That was all. Hanavan examined the weapon for several minutes and then placed it on the bench.

"It's worth the attempt," he remarked. "At least we will end up doing something."

At this, Prof. Milroy, who had been paying little attention during the last few minutes, came to life.

"I don't think we will die," said he. "Keep that thing concealed when the guards come . . . I do believe philology will have a practical use after all."

Our attempts to get some explanation were met with an assured, if somewhat cryptic shake of the head. Finally, we sat side by side on the bench, while our colleague drew staves upon the wall and whistled and hummed intermittently.

For two hours we experienced one of those maddening waits which seem always to occur just before action. Milroy's whistling degenerated to the repetition of an unmelodious succession of notes, while his face bore an ever-widening smile. Finally he spoke:

"Well, gentlemen, I have it. When our friends enter, if you will allow me to . . ."

There sounded a sharp click. We faced the door, watching. A pause and it swung open.

Two Kananese entered while three others, armed, waited outside. Evidently the examiner was taking no chances. Those who had come bore several covered jars which they proceeded to deposit on the table, without comment. This done, both turned toward the door, when Prof. Milroy walked slowly toward them and commenced to whistle that inane melody. Instantly the two stopped and wheeled about. Milroy continued to the end and, after a pause, repeated it with a variation. The effect upon the Kananese was amazing. Their repulsive features bearing what was very evidently the strongest of emotions, all five crowded into our cell and surrounded Milroy. He, not in the least embarrassed, continued to whistle speaking to us between breaths, in English.

"Out the door . . . while they are under the effects . . . slam it . . . when I come . . ."

Realization of what was happening began to come as we followed his directions. The guards stood in a half-circle about him, staring with glassy eyes.

"Mesmerized," murmured Hanavan, "by those tones."

There was little time for reflection, however, for hardly were we out of the room when Milroy joined us. He stopped his solo in mid-note and seized the door. "Quick, before they recover . . . So!"

The massive panel was closed, while from within came the click of some hidden locking device. We were free . . . in the citadel of Kanan.

As we hastened down the hall I confess I was more interested in the way in which our friend had hypnotized the soldiers than in our predicament. Hanavan shared my curiosity, though he glimpsed more of the truth than I, but Prof. Milroy gave but the briefest of explanations. Between hurried steps he told us.

"Musical scales and progressions seemed to be the basis of their language, and from the fact that a solitary person would make these sounds I inferred that their entire temperament was based upon tonal sensations. In a word, that their thoughts were made up of sound, instead of the pictures that cross our minds. And that emotions are to them simply tonal progressions . . . did you notice how the examiner chirruped when he was angry.

"So I concluded that any desired emotional state could be induced merely by the right tune, as it were. The problem became one of determining that tune. Fortunately, I have had plenty of time to listen and observe; the rest was only a matter of working out their psychological scale. The progression I used upon those guards con-

sisted in alternate dominant sevenths and parallel minors, and induced the condition of surprised immobility, a state very convenient to us."

"That's your masterpiece, Sheridan," exclaimed Hanavan, "the last word in interpreting foreign languages. It's too bad the Royal Society cannot hear about it."

Suddenly Prof. Milroy in the fore, halted, finger on lips. We were at the end of the straight corridor. Ahead it turned sharply to the right and ended within fifty feet, in a tall metal door.

Listening, a confused patter of feet and a distant piping of voices was heard. Evidently beyond the panel lay one of the busy "streets" of the citadel. After vainly trying to locate a keyhole through which to peep, we held a council of war.

CHAPTER XV

Milroy's Music

ACCORDING to the chart which we now studied closely for the first time, it was necessary to traverse that passage for nearly five hundred feet. Our course marked by a red line now branched left, through a series of chambers each marked with a small red triangle surrounded by three dots . . . the Zongain symbol for danger. At the end of the third chamber was the representation of a spiral staircase and the word *Unalt*—up. Here was another of those little triangles—what they meant we could not guess, but that caution was intended we felt no doubt. Beyond the stair was a short passage marked "pass; contact 7-29, 14-12, 2-18," and above that a circle with the word "magnet."

"The directions seem complete enough," I ventured, "but how did he expect us to pass this hall?"

"Shoot our way through," replied Hanavan. "Or perhaps overpower and change clothes with three Kananese. Excepting that it is rather doubtful if fate will present us with three alone . . . Too bad we locked those guards in."

Suddenly Milroy sprang up.

"I have it!" he cried delightedly. "Why use force when there is an easier way? Don't forget their 'Achilles' heel.' All that is necessary is to induce a state of catalepsy and Kanan is ours!"

"By Jove! Mass hypnotism . . ."

"Exactly! I have been thinking . . . the effect of a single note might be much increased if we could contrive to sound a chord . . ."

An hour and a half later, after about the oddest preparation for a battle that I can think of, we opened the metal door to the hall. For an hour Prof. Milroy had covered the walls with musical notations, and had whistled and hummed and perspired. Finally he wrote on three staves an eight-measure harmonization and we, like a "barber-shop trio," put our heads together and whistled, until each part was memorized.

"We've got them now," chuckled Milroy in triumph, as the door opened.

However Hanavan kept the gun ready.

The view that met our eyes as we stepped out was a familiar one. The passage, some eighty feet wide and half as high, was crowded with hurrying Kananese. Their ceaseless piping ran like the gurgling of a brook. At first we stood unnoticed on the threshold of the corridor, and then a man stopped peered at us intently and began to back away, his voice raised in a quavering siren-like call. Instantly all other sounds stopped. The rolling current of humanity abruptly halted, and a thousand faces were turned upon the cause of the disturbance.

There was a moment of utter silence while their eyes sought us out. Now was the chance! Like the leader of a church choir Milroy waved his hand—one, two, and we began. During the first measure there was no response, and an odd tingling sensation went wandering down my vertebræ. Forming my lips with difficulty, I continued. Another measure passed; I saw that the expression of those nearest the door had changed. Their eyes seemed glazed. One rocked slightly. On we went into the first variation, then results. Some one in the front row sagged, limped to the floor. Another raised hands to face, staggered back a yard, and toppled. At once they began to fall everywhere. Whole rows collapsed, as if a machine gun had been loosed upon them. Before we had half finished our piece the entire audience was unconscious. With a sign, Prof. Milroy ceased.

"Old sayings illustrated," he remarked, stepping carefully over the recumbent bodies, "'behold the audience after the musicale.'"

As may be imagined, it did not take us long to cover the distance to the side turn. Around the next bend could be heard a mounting volume of reedy voices raised in excitement, as the ceaseless traffic came upon the vanguard of the unconscious. With a fearful backward glance we hastened into the first of the small chambers marked with the danger sign.

Hanavan ahead, pushed open the narrow door and stopped. He whistled in surprise and entered. "My word! Just look at this!"

We crowded after him and then halted too. Before us was what was evidently a guardroom for there were stacks of weapons against the wall, but the guard lay, every man jack of them, in sweet repose upon the floor!

Prof. Milroy was gleeful. "Danger number one disposed of, eh? If we only had a public address system the war would be won!"

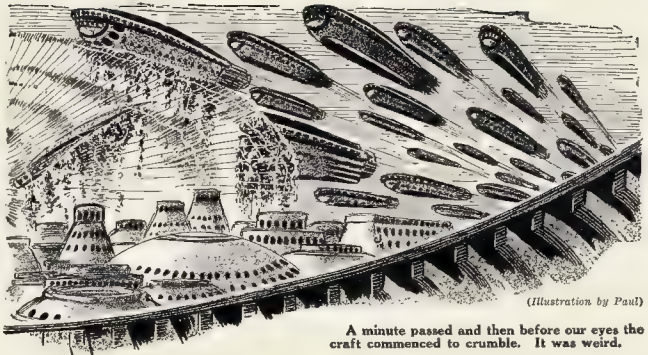
Stopping only to pick up an assortment of small weapons we hastened on toward the second room from which we could already hear a powerful hum. It was separated from the first by a similar door, but the instant we opened it we realized that trouble was at hand.

Pausing together at the entrance we peered into a long chamber filled from end to end with electrical apparatus. Glittering coils of a greenish metal, great cubes of crystal and sheet silver, and a maze of switches, electrodes and circuit-breakers turned the place to a veritable Steinmetz nightmare. From the farther end came the flickering blue glow of a mercury-vapor rectifier, while seated beside it was an elderly-appearing Kananese. The hum of the transformers had evidently drowned out our psychological trio, for the instant we stepped into the room the old man was on his feet, and reaching up to a switch.

"Ready?" queried Milroy. He raised one hand to start the music when the Kananese acted.

Down came the big switch and at the same instant, with a crackling roar, a curtain of flaming electricity descended before us. Shrinking back against the wall we soon found the origin of this display. Along floor and ceiling were rows of ball electrodes from which leaped hundreds of arcs, interlacing, joining and breaking until they formed a lacy sheet of electricity completely across the room. To even approach it meant sure death, while as we suddenly realized, the continual roar prevented the thin sound of our whistle from being audible to the little man beyond.

For a moment we seemed defeated. We could not use the gun, for even if the guardian were killed his fiery curtain would remain.



(*Illustration by Paul*)

A minute passed and then before our eyes the craft commenced to crumble. It was weird.

RETIRING to the far end of the room we waited for the Kananese to make the next move. If we had expected him to call for help we were mistaken for, after making some adjustments upon the switchboard, he strolled in a leisurely manner up to the crackling wall between us. Here he made a long and careful inspection, seemed to nod his head, and returned to his seat by the transformers. He touched the lever, when from behind us sounded a gentle thump: the entrance door had dropped into place. It was not necessary to try it to know that we were locked in

Hanavan prowled about the end of the room for a moment, poking at dials and levers, in the hope of finding a duplicate of the switch for the arc. No luck.

"It looks like the game is finished this time. We can't get our voices through with an amplifier. The crowd will be at our backs within a few minutes, and in a half hour the First Fleet will be in the range of the projectors."

"We might try to sing very loudly," suggested Milroy, "one can hear the whine of the transformers plainly through the screen."

Hanavan shook his head. "No," he said, "they are much louder . . ." Absently he twirled a dial. Immediately the tone of the transformer changed pitch, rising to a high whistle like a siren. Startled, he spun the little wheel in another direction, and was rewarded by a prolonged howl from the apparatus across the room.

"Frequency control," he muttered and was about to leave it when Prof. Milroy sprang forward.

"Frequency control to them, but our salvation!"

"What? What do you mean?"

"Controlled pitch! Play our notes on the transformer! As effective as whistling! Give me five minutes and this barrier will be gone!"

It was considerably less than five minutes when Prof. Milroy was ready. Paying no attention to the clamor of voices from the guard room behind us, he seized the dial and after a few preliminary howls from the coil, he commenced to broadcast.

The little old man at once began to take interest. I watched—my heart in my mouth—waiting for him to collapse. But he did no such thing. Instead, he stared at us for a moment, nodded his head with vigor, and reaching up shoved the big switch back into place. Instantly the electric wall vanished; our path was clear to the end of the room. Making sure that his hand was far enough from the switch, Hanavan and I hastened across the chamber where the Kananese was smiling at us in the friendliest manner.

"Grab him," commanded Milroy. We did so, encountering no resistance. Milroy at once left his dial and hastened across the danger line. He had hardly reached us when the whole demeanor of the Kananese changed. The smile on his yellow face turned to a snarl and he commenced to struggle.

Our colleague regarded him a second, then pursing his lips he whistled softly. The prisoner relaxed, gave a soft squeak and tumbled from our grasp onto the floor.

"Come," reminded Milroy, "time presses."

At the farther wall of the instrument room was a narrow portal, beyond which lay the spiral staircase. Leaving the unconscious guardian heaped in his chair, we began to climb and Milroy explained:

"It would have been of no use to hypnotize him, so I tried another 'tune.' It merely caused the feeling of extreme affection for the universe in general and us in particular. A sort of love song, as it were. Of course, the effect ceased with the music, hence the lullaby."

From above came a vibrant hum, its intensity increasing with each turn of the spiral. It suddenly occured to me that the sound came from the magnet projector; that that machine was already in operation against the fleet. We increased our pace.

We had ascended some five hundred steps when the top appeared. It consisted of a small chamber, less than six feet in diameter, roofed over with a spherical dome. On one side was a two-foot panel of blue stone, in which were imbedded a hundred or more copper disks; otherwise, the walls were of seamless metal. We stood for a moment staring blankly, when Hanavan, the sheet of paper in his hand, peered more closely at the metal buttons.

"There is a character cut on each one," he cried. He looked at the paper speaking his thoughts aloud. "Pass: contact: 7-29: 14-12: 2-18 . . ."

Now I noticed fastened to the wall above the plate, two metal spikes connected by three feet of shining copper cable. For some reason, in this emergency our minds worked more rapidly. Hanavan seized the pins and cable while Prof. Milroy, pencil in hand, studied the panel. In a moment he checked two of the disks. After a pause he found another pair and marked them, and almost immediately located the last two numbers given in our directions. Hanavan, following them up, pressed his two spikes firmly against the contacts. There was a

snap of sparks, while overhead I heard a click. Next, he connected the second pair of disks with the same result. Now the last two. The steel points were jammed into the copper. We waited a second, when silently half of the circular wall commenced to rise. Through the opening crack beneath came a flood of bluish light, while the hum of electric machinery became overpowering. Moment by moment I caught a widening glimpse of glittering steel, of dials and switches, of coils and insulators.

NOW the door was fully open. Gripping the little Zongainian gun Lord Hanavan led the way into the chamber beyond.

We entered a room more than two hundred feet square. Its walls were composed of vertical columns and plates, while a hundred feet overhead was a cylindrical roof resting on wheels. We gave but the briefest of glances to the room, for our attention was immediately focused upon the towering mechanism that occupied its center. That we were looking upon the great magnetic projector itself, there was no doubt. Mounted upon a massive crystalline stand it resembled nothing more than a huge earthly telescope, save that the core was built of thousands of laminated iron plates and coils of wire.

Standing before the switchboard at the base of the instrument were a dozen men, with their backs to us. Even as we looked one of these pulled out a switch. A hollow rumble sounded above. We glanced up to see the whole ceiling sliding sideways. Beyond was revealed the dull, gray sky of Kanan, but in it were *prolos*—hundreds of them—dropping slowly past us. Far above, its remote crescents passing out of our field of view, was a gigantic armada of space ships, thousands upon thousands . . . sweeping magnificently down upon the last stronghold of Kanan.

Involuntarily we thrilled at the sight, and then our attention was attracted to the group at the switchboard. One was talking in Zongainian.

"Will they not be surprised . . . what's left of them." He laughed. "And their fool spies! I would that they might be standing here now so they could see what happens to those who oppose . . ." The Kananese had turned around and now he was facing us, his eyes wide in amazement and fright, his yellow face slowly whitening.

The others swung about at his silence. Instantly one made a motion with his hands. There was a sharp crack and a dim vision of a bluish spark. Lord Hanavan, in the lead, gave a sharp cry and staggered back raising his gun at the same time. Again the Kananese fired, and then Hanavan found the trigger button. There was a crackling rattle and the group of Kananese seemed to literally explode before him. In a cloud of smoke and flying bits of metal they ran a few steps, only to fall in that merciless hail. Explosive bullets—the Zongainian gun fired explosive bullets! Suddenly the barrage stopped. Hanavan was leaning against the nearer wall, his face white and drawn. He held out the gun. "Take it . . . Make them . . . turn magnet . . . upon Kananese." He closed his eyes as I took the weapon.

But now our attention was focused upon two who had escaped the general slaughter. These poor cowering wretches were on their hands and knees wailing what were evidently pleas for mercy, in their own tongue. Prof. Milroy, without pausing, whistled a few notes and pointed through the roof to the Kananese battle *prolos* now directly overhead. I backed him up with a suggestive shake of the gun.

I do not know which was the more potent, but under the combined influence of the gun and Milroy's hypnotism, the Kananese returned to the control and focussed their dreadful telescope until it was bearing squarely on the center of the nearer fleet. Milroy, inflexible, gave the command. The power was turned on. A score of huge tubes flickered with a blue radiance, white six-foot coils on the magnet glowed red. A strange thrill passed across my body . . . the magnetism, or was it but a nervous state?

Tensely we waited, eyes glued upon the gray fish shapes above. A minute passed and then before our eyes the craft commenced to crumble. It was weird, the slowness with which those giant living monsters turned to shapeless clouds of wreckage. One by one they changed, lost form and merged into one mighty rain. Girders, armor plates, guns, and tiny specks that might have been men, fluttered endlessly down, down to the roofs. Minute followed long minute until we discovered that the sky was empty again save for the distant crescent of the Zongainians. We blinked, unable to realize that the Kananese Imperial Fleet was gone . . . wiped out in a dozen minutes by their own weapon.

For hours it seemed I remained staring through the roof at the empty gray sky and the swarm of the First Fleet, moving infinitely, slowly toward the citadel. I do not know how long I would have remained thus had not I caught the image of a shadow moving swiftly in front of a dully-radiating coil. The next instant I looked down and my eye met that of one of the Kananese who was glaring with a deadly malevolence at me and slowly raising a slender metal rod.

Milroy must have seen him at the same instant for he gave a sharp cry of warning. Automatically my thumb found the button of the barrel of the gun. The Kananese threw himself forward and up and vanished into a haze of smoke. Now I saw the other man running, crouched low, toward the instrument panel. I started to shift my aim, when with a last great leap he reached his objective. The next second a glare like a lightning bolt flashed out. Instantaneously I saw the Kananese silhouetted against the coils, one hand grasping a shattered tube, his body completely encased in a gauze of sparks. Then darkness, punctured by leaping blue flames . . . a crashing roar of loosed fury . . . a dim vision of arcs playing up and down the length of the magnet. And then with a splintering sound it toppled, ponderously, majestically.

Shattering girders and lesser pieces of apparatus it fell, crushing into ruin half the chamber and bringing down with it the hopes of Imperial Kanan.

CHAPTER XVI

Homeward Bound!

FOR a moment we stood motionless in semi-darkness, and then, without a sound, Lord Hanavan collapsed to the floor. We ran to his side, when from the still open doors came voices, running footsteps. The stairway! We had forgotten the stairway!

Prof. Milroy, with rare presence of mind, seized the gun and ran to the door. After hauling Hanavan out of the zone of fire, I returned to his side. As I arrived the voices rose to a sharp crescendo. Flinging the door wide Prof. Milroy turned his weapon downward. From below there sounded a sharp, strangled cry, followed by a prolonged and horrible screaming. His face ashen and his body rigid, Milroy held the weapon until the metal steps collapsed for thirty feet. Then he snapped it off and closed the door.

He gestured toward Hanavan.

"Dead?"

Without waiting for an answer he listened for a heart beat. He arose in relief. "Still going . . . no sign of a wound . . ." He shook his head, as though trying to clear his mind, and then walked unsteadily to a metal bench, where he slumped down.

For several seconds I remained standing at Hanavan's side, attempting to collect myself, before I remembered the fleet.

Half fearing to find it gone, I looked up through the open roof. It was still there. So near that only its center could be seen, it drove downward, silently, ominously. Rank after rank of thousand-foot battle *prolos;* endless columns of smaller cruisers; myriads of gnat-size bomb droppers, all drawing together upon the exposed entrance to the Kananese workshops and citadel.

Even now the magnetic ray should have been at work destroying the armor and steel beams of those ships. Somewhere the Kananese commanders, the examiner and the Emperor, were waiting and wondering at the silence, perhaps not knowing yet what had happened.

Suddenly I realized what it meant. Zongainia would be victorious . . . we would be rescued . . . we could return . . .

All thoughts were stopped at this instant, for with a blaze of colored lighting and a shattering blast of thunder, the first rank of the attackers opened fire.

Prof. Milroy leaped up at the sound. Without withdrawing my gaze from the roof I noted a light blinking rapidly upon a side switchboard. That was the Kanan military staff calling for help.

Now the very floor was shaking with the impact of shells and bombs. The Zongain fleet had changed directions. It seemed to me circling and dropping gradually lower. Green bursts of flame in the sky showed that Kanan could still retaliate. But as the minutes passed these became rarer and rarer.

Ship after ship passed over. Now they were scarcely a mile away. A bursting shell threw a shower of cement and glass through the roof. As we scurried for the alcove where Hanavan lay, Milroy shouted in my ear "One of those is coming here any minute. If we don't leave soon . . ."

I gestured toward the unconscious archæologist, but Milroy was busy across the room with a little oval door. He shouted something over his shoulder, inaudible in the din, and the door opened, revealing a tiny round chamber. Returning to me he cried, "Elevator . . . to the roof . . ." At my look of dismay, he returned "Stairs gone. Must signal . . . only way . . . Help me with Hanavan . . ."

Another avalanche of debris decided us. Half carrying, half dragging our friend over the crumpled remains of the projector, we managed to enter the elevator where Milroy by some marvelous intuition pressed the right starting button. The door clicked shut, bringing the thunder of the battle to an abrupt stop, and the car rose swiftly. Milroy sat heavily on the floor and held his head in his hands. His whole body, physically exhausted, was giving in spite of his heroic will.

"We have about one chance in *n* that they will see or recognize a signal," he murmured, "but we . . ." With a jolt the elevator halted, another door opened, and the tumult of the attack drowned further human words.

We were on the roof in the shadow of one of the steel towers, and overlooking the entrance to the Kananese stronghold. But what a change had taken place! The entire roof had fallen in. The camouflage was off, while a half dozen Kananese *prolos,* cornered in their own pit, were fighting their last battle.

The First Fleet had gathered in a circle about the place, where it hovered motionless. From each *prolo* there poured a veritable stream of projectiles, under whose relentless impact the structures of the city crumbled like eggshells. Flames licked the edge amid billowing masses of smoke, while ever and anon a whole building quivered and uprose with some internal blast. The workshop floor where we had landed was buried many feet deep by the wrecked roof and the riddled hulks of *prolos.* There seemed to be hardly a dozen Kananese ships left, and some of these even lay disabled on the floor, still firing. Tighter yet grew the ring of the First Fleet. That the end was near was apparent.

I became aware that Milroy was shouting inaudibly at me. I took a step back when, without warning, the roar ceased.

A crowd of echoes yelped for a moment, and then silence . . . utter, deafening by its very intensity, descended. A line of red flames flickered quietly across the pit; some masonry fell with a light clatter. I looked at Milroy. "What is it . . . ?" He did not reply. Again I turned my eyes upon the pit.

THE Kananese *prolos* were rising silently, each toward a Zongainian craft. Dimly I made out lines of minute things that were men filing out of the buildings into the open. For a moment smoke blotted out the scene. Milroy's voice, small and distant and bell-like, broke the stillness.

"They are surrendering . . . giving up . . . it is all done!" Abruptly he sat down, tried to speak, and then crumpled in a heap on the steps.

Suddenly I realized that we were invisible here, that we must signal. I shouted and waved my arms; then, seeing the futility of such signs, seized the gun and turned it upon the pit. Again and again it crackled, until I saw a *prolo* turn toward us. In a moment it was overhead. Faces looked out, not the sickly yellow masks of the Kananese, but the round tanned features of Zongainians. I attempted to shout, to point, but the effort was too much. The universe leaped in circles about me, and then blackened. I felt myself falling, arms about me . . . voices . . . movement . . . darkness.

"*Meta ela Meta!* In this word there is no defeat! *Meta ela Meta!*" These words uttered in Zongainian by a resonant bass voice heralded my return to the land of the living. To my opened eyes there was disclosed a low steel room, its floor covered with pneumatic beds and prone men. A faint hum came from somewhere . . . engines! I raised my head to look for the speaker, when the voice came again . . . from a small black box at one end of the room.

"Word has just been received from the flag ship that Lao Refi, Emperor of all Kanan, has surrendered personally, and is now aboard the *Zongainian* . . ."

At this there arose a babel of conversation from the other occupants of the room. Now I noticed that all wore the molded bandages here and there on arms and legs. Another glance about the room convinced me. The steel walls and floor, the faint vibration of electrical machinery, all pointed to one conclusion. We were in the hospital room of a Zongainian battleship.

The patient on my left turned on his side and said to me: "*He* thought he was going to retire on a pension after making a mess of the job of Emperor, but El Zoia had him by the neck. When the people and the army found they had to choose between losing an emperor or having the city bombed, they rendered him up in a hurry. Ha! but this is the day for El Zoia."

Seizing upon the first thing that came into my mind, I asked, "What *prolo* is this?"

"Brought in unconscious? . . . This is the *Zongainian.*"

"Where are we?"

"I can't tell within a half light year, but we are somewhere on the route to Zongainia."

My heart gave a sudden leap. Zongainia! The Earth! We were going back!

I lay back on the pneumatic bed and listened to the voice from the loud speaker. It evidently came from Zongainia, broadcasted across the Universe, by a ray a thousand times faster than light. As I listened a sense of unutterable repose and comfort came over me. The voice continued.

". . . The country is waiting only for the coming of the flagship *Zongainian* and the fleet to celebrate the victory. The people are already swarming about the government Ethero station for a first television glimpse of their beloved El Zoia. Ver Menisto has crowned his career as statesman and scientist by a military achievement of the highest order . . ."

"Is he on the ship?" I asked. "El Zoia, I mean."

"Yes."

I lay back again. I wondered why no one approached my bed; why this wounded soldier spoke as though I were but a comrade; why we had not been sent to the Commander—and then suddenly the truth dawned upon me. Picked up in the turmoil after the fight dressed in Zongainian garb, tanned by the sun of Egypt to a betel brown, we had been placed unrecognized among the thousands of wounded to be returned home. My breath came faster as new hope grew within me. Glancing about I soon made out the forms of Prof. Milroy and Lord Hanavan. Turning again to the man beside me I attempted to make conversation.

"Which *prolo* were you on," I asked.

"The *Voya V*," he replied. "I was carrying ammunition when we got it . . . tore the whole side out of the old *Voya*. I thought we were all through but the city roof broke our fall. I was conscious all the time. One of the first landing parties from the *Ahtz*, I believe, picked us up."

He scratched his bandage and then looked at his wounds through its transparency.

"Those landing expeditions were all failures," he remarked. "Before we went down, I saw the *Muniun-116* drop three thousand in a street. I don't believe half of them ever returned."

He regarded the ceiling meditatively, but at that instant a number of men and women, evidently doctors, entered. I lay back on my couch again, wondering if I would be recognized. Shortly after, I fell asleep.

More than a week, measured by earth's time, passed before Hanavan, Milroy and I could be called well. Our illness was nervous rather than physical, and such I gathered could not be treated so speedily. However, we were given every comfort and recuperation came rapidly. Toward the end of the week the ward was almost empty of patients, and we had all the privacy we could desire for planning.

BOTH Lord Hanavan and his friend had had the same idea as I. If we could mix with the 80,000 odd members of the crew there was a possibility—the barest possibility—that we might make our way north, out of the country to the Sobat. Thence on a raft to civilization. If Cummings and Pfeiffer and the Englishman were prisoners on board we might contrive to free them too; otherwise, all we could do would be to bring back a rescue party from England. An army division, if necessary, and force the Zongainian dictator to give them up. Oddly, we still thought of Zongainia as a beautiful but half barbaric country. Even after what we had seen of its strength. Lord Hanavan, who had once been a Colonel in India, never thought of the military strength of Zongainia in terms of a *prolo* fleet over London!

After the passage of a week, more or less, we were pronounced "ready for duty." Prepared beforehand, we duly told that we were members of the landing party from the *Muniun-116* lost on the roofs. After being registered under names made up beforehand, we were assigned places as "inductor-men," in the engine room, and as far as the Zongainian staff was concerned, we were cared for.

Owing to our position in the center of the *prolo* we did not for a long time comprehend just how huge the *Zongainian* was. Naturally we avoided asking suspicious questions, but while off duty Prof. Milroy, rummaging in the engineer's office, found some rather astounding data. The *Zongainian* had a beam of eight hundred feet, a length of 5170 feet, and weighed on earth, some seven million five hundred thousand tons. Its normal crew was 78,000, it had 800 30-inch rapid-fire guns, and 4000 five-inch guns. Its armor plating was four feet thick, and its engines developed a horsepower of three hundred millions!

Our job during the fifteen or more weeks of the return voyage was that of caring for two of the immense induction coils that supplied high-tension current to some motor. The coils were more than thirty feet in length and by their proximity to our sleeping quarters kept us continually charged with electricity. Within the first five minutes Hanavan's watch became magnetized and stopped. Milroy's long fine hair stood out like an aura about him, making a really excellent electroscope.

Our quarters consisted of three trough-like berths, one above the other, in what might be termed the starboard dormitory. Five thousand men slept there, occupying the berths in rotation, and it was necessary to be out immediately the first gong sounded, to make room for another finishing his six-hour shift. Food was rationed out at the beginning of each shift, and we ate on duty whenever we were hungry, consuming both the gelatine and the package in which it was issued.

Upon several occasions we caught glimpses into the main power room of the craft, but a limited scientific knowledge prevented any comprehension. The place was vast; hundreds of feet square and high, and filled with Titanic electrical apparatus—coils—condensers—fifty-foot vacuum tubes, whose glow cast weird reflections on the ceiling.

As nearly as we could understand, the purpose of all this apparatus was to generate electric current of a certain frequency and wave form which when sent through ranks of mineral crystals caused electromagnetic impulses creating a sort of interference phenomenon with gravity . . .

We ate and slept within a five hundred-foot area and not once during the whole trip did we catch a glimpse outside

All things must end, however—even this interminable voyage. Day by day the bulletin board in our sleeping room announced a smaller velocity, and a shorter distance to cover before we should reach the earth. Our fellow-workers talked now of the coming landing, of friends, parents, wives or husbands, of homes. We three, in our turn, became animated by a great excitement, which leaped higher as the news came that we were inside Neptune's orbit—A. N. 8 it was termed on the bulletin board, after the sun's astronomical name Alf Nueri.

Uranus' and Saturn's paths were crossed during the next day without sighting them. Jupiter's orbit was passed at a distance of two hundred million miles from that planet. Then we decelerated five days among the asteroids. At Mars, fifty million miles from the earth,

an escort of some thousands of *prolos*, the "Asteroid patrol," met the First Fleet. In common with a number of the other engineers we went to the windows for our first view of the sun.

It was very disappointing. The Sun, dull in comparison to the other giants of the Universe, glowed beneath. Over to one side a tiny, ruddy, full moon gleamed—Mars. And far below, a silvery blue star of intense brilliancy attended by a dimmer companion, lay the Earth. We looked at it, too filled with emotion to speak. About us the crew shouting to each other danced and laughed with joy.

After we had returned to the sleeping room Lord Hanavan drew Milroy and myself toward him.

"Landing in Zongainia," he said, in a low voice, "won't automatically mean walking up the steps of the Royal Society. Once we leave the ship we will be on our own in a city and country almost as unknown as Kanan. One slip may mean capture. That every one will be rejoicing will aid us somewhat, but we must be careful . . . Our immediate course can be decided by *where* we land. If it is in the city of Imperium it will be very difficult. If we descend in the northern city—Andorks—we will have only a short distance to travel to the valley . . . the basalt cliffs . . . the Nile . . . ."

Others of the crew entered the room at this instant and all conversation ceased.

It was now only a matter of hours until we should land. Weight increased abruptly as deceleration was raised. Up the great hallway toward the control sounded voices . . . running steps. Orders to stand by our coils and switchboards came from above. Vague shiftings and movements betrayed the maneuvering of the *prolo* as it approached its landing place. We waited . . .

Then deceleration increased once more. A faint whistling echoed from outside. The atmosphere! Then our motion seemed to slacken; we moved forward, stopped again. A long pause ensued and then a sharp tremor, a metallic thump. Orders appeared on the ground-glass signal screen: "Shut down power."

The hum of the generators slowed. Like the descending whine of a score of sirens, the massive motors were turned off. Voices sound up the hall; the sharp hiss of air and a breath faint, but unmistakable, came down to the engine room. We sniffed long and then laughed idiotically at each other. It was the fresh tangy breeze from the lake! We had landed; the voyage was over.

CHAPTER XVII

The Mysterious Stranger

AND now I come to what is one of the strangest parts of our whole adventure. A half-hour after the *Zongainian* had docked, we, with about four thousand more refugees from other ships, were disembarked and told to report to the Prolo Shops at Andorks next day. We marched down an enclosed gangway and onto a balcony. We paused for a moment, confused, and then remembrance flashed upon us. We were overlooking the Imperium landingway from the very walk where a half-year ago we had been led to our prison ship, but what a difference there was now!

Then we had been helpless prisoners, confused, comprehending nothing of the language; not knowing whether we would see another day dawn. Now we stood attired in the uniform of the Zongainian Navy, masters of the tongue and, as it turned out, heroes in the eyes of everyone. With a crowd of some two hundred others we marched down the hall and into the main lobby of the great interstellar depot. In this immense room, which measured more than seven hundred feet square, milled a vast crowd of people, colorful in their light costumes; cheering wildly and throwing Zongainian confetti in the form of iridescent bubbles of some sort, upon the column of returning soldiers.

Through a lane in the crowd we went, and so out upon the street.

Here also were uncounted thousands of people, extending between the towering buildings as far as the eye could reach. Dazzling beams of colored lights flickered back and forth from spotlights on the balconies, and music, strange, throbbingly triumphant and beautiful, floated down from nowhere. From the steps of the depot we caught a momentary view of the whole spectacle, and then still with the main body of soldiers we descended and were swallowed up in the mob. It was not difficult to make our way down the street for, unlike European crowds, the Zongainians were courteous in their excitement.

One by one our comrades dropped off, going to their respective homes before reporting at Andorks until finally we three found ourselves late in the evening, on the outskirts of the zone of celebration. About us the buildings were lower, while the glass ceiling had ended some blocks back. Overhead it was cloudy; the colored lights of the city were reflected back like an aurora. Once we caught a glimpse down a long avenue of the White Tower, arising an incredible distance and bathed in rainbow hues. And once in the midst of a turmoil of music from a square we were startled by a familiar piece of earthly music—Liszt's Second Hungarian Rhapsody.

There were fewer people here and they seemed intent upon getting to the central area as soon as possible. Stepping into the arcade of a building, we took a moment to discuss further movements. Now that we were actually back, all our former assurance departed. The city of Imperium, which had seemed so unimportant when the Universe lay between us and the world, now assumed vast proportions. We suddenly realized that we had a hundred-mile hike ahead of us before we could even leave the inhabited area of the country, and then without sufficient clothing or shoes, and with only the little Zongainian rapid-fire gun, which was hardly suitable for game, we would have to make a four thousand-mile journey down the Nile.

"We might go on to Andorks with the rest," suggested Prof. Milroy, "and have a seventy-mile start."

Unfortunately we had no idea as to the point of embarkation; indeed, I doubt if we could have found our way back to the landing-way. We dared not ask questions and feared that an attempt to walk the streets all night might result in arrest; or whatever was done to vagrants in Zongainia.

Rapidly now courage oozed out. We were as lost in Imperium as a Hottentot would be, alone in New York City.

As conversation lagged, I noticed a man standing at the sidewalk railing which overlooked the street proper and who was regarding us steadily. I nudged Hanavan and indicated the watcher. For a moment we looked in silence, and then Hanavan murmured, "We must not let him know we see him. We may be suspected . . . we may be breaking some law . . ." he stopped abruptly, and I turned about. The man had left the railing and was walking toward us in a leisurely manner. We crouched back into the doorway, horrified. My heart leaped; I looked up and down the street, but escape was impossible. The other doubtless had weapons . . .

Hanavan whispered, "Bluff it out. We have a chance yet." I essayed to brace myself up, with sorry results. Luckily the shadows hid our faces.

In a moment the strange Zongainian was at our side.

"From the fleet?" he asked, pleasantly.

Hanavan nodded adding, "The *Zongainian.*"

The other was agreeably surprised.

"Has anyone invited you for the evening?" he inquired next.

Hanavan paused, uncertain as to the answer. Finally he said "No."

"Well, that will be fine," replied the other, apparently well pleased. "With twenty million families looking for one of you returning heroes as a guest at the celebration, you are rather at a premium." He paused. "I have apartments in the Sixteen Meriot Building. My private car is on the street below. If you will . . ."

We would. I was cold and damp with perspiration from the reaction as we descended to the street and climbed into the orange-colored vehicle.

Without a sound the stranger started his machine and we were soon moving at a rapid pace toward the White Zongainian Tower.

As soon as we were under way the driver turned to us. "My name is Ver Anul . . ."

WE hastened to introduce ourselves by the names given on board the *Zongainian.*

Ver Anul then proceeded to ask many questions about the war, about the seige of Kanan, and the ease with which it had fallen.

"It is a matter of much wonder to the government, I hear, that the Emperor allowed—literally invited—the First Fleet to defeat him. And there have been reports that some strange accident overtook the greater part of their fleet. However, a commission has been appointed to investigate the matter. Their findings may be announced tonight."

A pause followed and then Hanavan very carefully began asking about the celebration. Ver Anul, however, did not appear surprised, and talked all the rest of the way. We gathered that there would be a ceremony in the largest auditorium in the city, which, broadcasted through telephone wires, would reach everyone in the country as well as the three hundred thousand in the hall. Ship commanders and soldiers were to receive decorations, the terms of the treaty were to be read and Ver Menisto, the all-conquering El Zoia, was to make a speech. Before the ceremony we were to have lunch in Ver Anul's apartment. Further explanations were cut off by the arrival at the apartment building.

Ver Anul shared his suite with another man and three women, all unattached business people who lived together like a happy family sharing parlor, bedroom and bath. Each had a soldier guest for the evening, who kept us in the background by their conversation about the war. Dinner, the usual jellies and thin wafers and sour liquid, was soon over. Ver Anul, with profuse politeness, escorted us to a chute and handed us the little metal guides. It was no time to back out, so with averted faces we dropped off one by one. The chute ended in a sort of station where one could enter the cars of the pneumatic subway. Our host indicated a car and entered after us. Twenty or more people were already there, reclining on tiers of bunks that made the place suggestive of an American Pullman car.

We were in the car scarcely five minutes when it halted and everybody hastened out. We found ourselves in a vast square under the open sky and facing the facade of a great building. Glowing windows three hundred feet high stretched for two miles on either side, while a glimpse of moonlit water beyond showed that we were near the lake. The square was covered by an immense crowd which must have numbered hundreds of thousands, but Ver Anul knew his way for he pushed through to a small door near the main entrance. Showing a round ticket of some kind to the doorman, he pushed in.

"Reserved," he explained. "In the first row of seats."

"He must be important," whispered Prof. Milroy in English. "I wonder why he picked us up?" Hanavan shrugged.

The next second we passed through a short corridor into the auditorium. I was prepared for something huge, but the size of this room was simply overwhelming. Its ceiling, hung with heavy curtains, was more than six hundred feet overhead, while the floor extended over two miles back. Seated upon the floor and the mile-wide balcony was the audience—three hundred thousand people.

At the nearer end of the hall was a large platform occupied by a number of seats and by a device we surmised to be amplifying apparatus for the speakers. Directly behind this hung a white screen almost four hundred feet square whose purpose we could not guess.

Ver Anul went at once to a vacant bench where we all sat. He spoke to a number of other men and women nearby and they, I noticed, glanced at us with interest.

The first few rows of seats in front were separated from the rest by a light fence. In this space gathered a thousand or more people, all evidently officials of the government, or officers of the fleet. Several hundred other soldiers in their tunic-uniforms and light capes took seats across the room.

After a short wait all the lights dimmed and went out, save those on the platform. A spotlight from the microphone stand illuminated the speaker's seat. A few moments passed during which the vast assemblage became quiet and then a figure, which I immediately recognized as El Zoia, ascended to the platform. As he stepped before the microphones, a brilliant light was projected on the mammoth screen and, standing more than three hundred feet high, a clear colored picture of him appeared.

Every movement, every feature must have been visible from the farthest end of the hall. A murmur arising from the audience, died down. The tiny figure on the platform inclined his head, followed exactly by the image above; and then his voice, amplified a million-fold, sounded from behind the screen.

His talk was short and concerned itself with anecdotes and descriptions of the campaign. In spite of our limited knowledge of the Zongainian literary tongue we could see that he was a born narrator. Within five minutes we had completely forgotten our situation, and were entirely engrossed in his charming tales.

After an hour of this, he introduced a short bearded man, the first such we had seen in Zongainia, who was the commander of the First Fleet. This man, whose name I believe was Ver Loxus Throm, complimented the officers and personnel of the fleet and introduced another—National Secretary is the nearest English translation of his title, who discussed the economic results of the war. Then the Dictator took the platform and called up a dozen or more *prolo* commanders to be decorated with a silvery cloth headdress, not unlike those worn by modern Arabs. Murmurs of approval from the audience greeted each decoration. Next some fifty officers were awarded scarlet hoods for exceptional bravery, and one spoke into the microphone and televisor. Ver Anul leaned over and whispered in my ear:

"The big event of the evening has not come yet. It will be a . . . surprise."

I made little of that remark and, attributing it to my ignorance, continued to watch the proceedings. For per-

haps an hour these decorations were given out, and then El Zoia took the stand.

"We now come to the presentation of the hood of Ela Meta, the highest honor possible to a Zongainian soldier, which tonight will be given to three of the crew of the *Alf Aueri*, for bravery in the face of danger, unvarying tenacity of purpose and devotion to their country. Their names will be engraven for all time in the memory of Zongainia for having saved her fleet from destruction. Their names are: Lord Mitchell Hanavan, of England; Prof. Sheridan Milroy, England; David Lawrence, United States."

The murmurs of the audience broke into a roar of applause which drowned out even the loud-speakers. We lay back upon the bench, amazed, stunned. Ver Anul seized Milroy and me by the arms and cried:

"Up, up! Go up to the platform! He's waiting . . ."

We staggered forward, unable to think, and blinked into the lenses of the televisor. I became conscious that El Zoia was speaking to us; of gigantic figures upon the screen that were our own; of a continual thunder of voices from the hall; and of a gold-colored hood being placed over my head; and then, our minds reeling, we were literally carried off the platform and out of the side entrance, while three hundred thousand people yelled madly for three escaped prisoners who had just been recaptured.

CHAPTER XVIII

Homeward Bound

THE mental reaction from the events of the past few hours kept us in bed until noon of the next day. I doubt if we could have slept at all save for the gaseous sleeping potion blown in through the ventilator. As it was, however, we got a good dose of slumber—the best thing possible after what we had passed through.

I awoke first, quite without memory of what had happened. I was lying under a glass panel frame like a counter in an American store. This enclosed bed, for such it was, was one of six in a big square room, flooded with sunshine from windows and a skylight.

Outside lay a wide formal garden, a small lake, and beyond, a mounting range of forest-covered hills. My mind still groping, I sat up and nearly cracked my skull on the ceiling of the sleeping compartment. At this jolt recollection came in a flood. The landing at Imperium . . . the strange man who had picked us up in the street . . . the auditorium . . . I held my head between my hands for a moment. Suddenly my attention was attracted by a muffled shouting and thumping. Startled, I looked into the next bed in which lay Prof. Milroy, tangled in the cape he still wore, shoving and pushing at his enclosure.

Seeing that I was awake he made motions indicative of escape and gestured toward the other bed-cases. I now observed that each contained a slumbering figure; whoever they were they had not awakened. At this moment Prof. Milroy found the mechanism opening his bed and the top rose like a jackknife bridge allowing my comrade to roll out on the floor. His first act was to direct me by many gestures and shouted phrases, to pull down a lever inside, causing the glass case to open. The next instant I stood beside him.

His first words were an exact echo of my own thoughts.

"In Heavens' name, what has happened? Where are we?"

I shook my head. "On earth, that's sure. In Zongainia awaiting deportation, probably."

Milroy walked to the window. "At least," he murmured, "we can get another glimpse of the old world. Look, a butterfly."

I ran to his side to see. A wave of feeling swept over me as I looked out. Trees, grass, clouds, birds and insects, the golden light of our own sun. For minutes we stood silently at the window, absorbing through every pore the warm sunlight, and the familiar earthly beauty of the scene.

Finally, Milroy, turning away with an effort, pointed to the other beds.

"Who are they?" he asked of the empty air. Hanavan . . ."

We hurried to the nearest. Inside was a short, stout figure, lying on his back and giving vent to snores audible even through the sound-proof case—Prof. Pfeiffler! I rushed to the next case—yes, there lay Cummings, sleeping quietly, his face somewhat tired-looking. Milroy, ahead of me, cried out that he had found the little cockney, Hawkins. And in the farther bed, Lord Hanavan was just in the act of awakening. It can be well imagined with what impatience we three waited the awakening of our companions.

What had happened to them after we had left the disabled *proto* on our ill-fated search for wire? Had they been transported here on board the *Zongainian?* Did they know how we had been tricked into coming to the celebration? That the mysterious Ver Anul was an agent of El Zoia, we had no doubt now. How long we had been watched could not be guessed. Hanavan tried to open Dr. Cummings' bed, but could find no fastening outside. We must wait.

Lord Hanavan went to the window where he remained for several minutes before turning to us.

"No escape there," he mused. "They're watching, we can be sure of that. Our fate, I guess, is in the lap of the gods."

"El Zoia, you mean," muttered Milroy, "the gods haven't a chance here."

"Well, in any case, we are going to see Dunsaan again, or a more distant place." He paused to watch a humming bird outside. "You know, I cannot understand yet his reason for last night. El Zoia's, I mean. He was so utterly unemotional, such an action seemed contradictory to his nature. He may have a love of the dramatic; a sort of grand gesture before the execution to impress his subjects."

From behind there sounded heavy footsteps, a voice, deeply melodious, never-to-be-forgotten, rang out, in English:

"I may have to deport you yet, gentlemen, you seem to know too much about me."

We spun around. In front of the now opened door, he stood, attired in a white tunic and cape, hands on hips, and beaming on us as if immensely pleased. We remained silent.

"In your land," he continued, "stories usually end happily. I trust this one has."

Hanavan found his voice. "It has ended?"

"First installment," replied Ver Menisto. "To be continued."

Prof. Milroy now spoke. "You seem to know about the magnet projector in Kanan!"

"Nothing mysterious there, Prof. Milroy. My agent, whom you saw, told all about it."

"So you allowed us to work our way back on the *Zongainia* thinking we were unknown . . .?"

"Precisely." He pointed to one of the beds. "I believe our learned Deutscher has awakened . . . Prof. Pfeiffler. We spent many a delightful hour on the return trip. His Zongainian . . . he speaks with such an odd accent, but I learned a great deal of zoölogy."

PFEIFFLER sat up, blinking, and then raised the glass case.

"*Guten tag, mein Herr Menisto.* Vell, und here iss all der rest uf der oxbedition." He stood up, stretching. "Dot vass a vine bardy ve had last nighd. Vasn't id?"

Now Cummings was awake. He climbed out, said good morning to El Zoia, and laughed at our stupefaction.

"Your friends," explained El Zoia, "shared my suite on the *Zongainia.* We became quite well acquainted."

For some twenty minutes we talked thus, telling experiences, describing impressions, for all the world as though in Hanavan's London drawing-room. We were completely carried away by El Zoia's informal manner.

We walked out upon a white stone porch overlooking the garden, the wide valley, and in the remote distance the city of Imperium, which lay far below and to the south. About us lay a magnificent villa—palace rather—of white stone-like material, six floors high and covering acres.

"This," explained Ver Menisto, "is my regular home—when I am at home. We are in the province of Palata—recognize the Latin in Palata and Imperium, Milroy? And those mountains mark the northern border of the country."

He paused. Hanavan filled the breach. "We have been wondering for some time as to the—the disposal which will be made of us. We . . ."

"Of course," he replied, "and I have my mind quite made up on the subject. Your greatest desire is, I imagine, to return to your world?"

We did not answer. Hanavan stood at the railing, looking at the slender spire of the white tower in the distance. Some small birds of an iridescent green fluttered on the balcony.

"I have been studying you carefully," continued El Zoia. "You are scientists, semi-civilized, men of honor. I understand your thoughts of returning to Dunsaan, or even, of remaining under compulsion here. And so, perhaps because I am not utterly unemotional or, because you might escape anyway, I am going to send you back. Your word of silence will be enough. You have worked well for Zongainia, and as soldiers of Zongainia you are rewarded."

He stopped. For a long moment we all remained in silence, then Lord Hanavan spoke:

"We give our word." That was all.

Ver Menisto hesitated for an instant. Then his entire manner changing he cried cheerfully:

"Well, now that that matter is settled, we might spend the rest of the day seeing a little more of Zongainia. I have a small *prolo* here and we ought to cover most of the country before sunset."

I can remember little of the afternoon. We soared for hours in the tiny open flyer, sometimes high, sometimes skimming the surface of the lake. Now that our minds were no longer occupied with worry, the beauties of the country were more apparent. A wide basin, containing the capital and the lake, and flanked by three rich valleys constituted, with the magnificent mountain mass, the main topographic features of the region.

Here and there the plain was colored by cities, while silvery roads ran in geometric lines. In the extreme clarity of the air on the plateau every detail could be made out, buildings, streets, the odd streamline ground vehicles, and the monorail trains, like the one we had first seen on that day so long ago. El Zoia navigated the machine himself, pointed out cities and rivers like a veteran tourist guide.

Finally, late in the afternoon, we descended to the roof of the tower . . . The same landing crew helped us out, and in the office below the same secretary bowed and ushered us in.

Ver Menisto now telephoned, using instruments quite out of sight, and made arrangements for a ship to carry us away.

"No use to send you on a three thousand-mile trip," he explained. "We can land you in London in an hour."

As sunset approached we supped, in the office, of the delicately flavored gelatine and the bitter drink. For some reason the food seemed better than before, possibly because it was the last meal we would eat of it. There was little conversation. El Zoia, in a corner, confined himself to brief answers to questions. The rest of us, overlooking the lake and the mountain, watched the sunset—so like that on the eve of our coming.

Finally, the meal was through. In response to some orders given without our knowledge, an attendant entered bearing six complete suits of clothes secured I cannot imagine where. It is difficult to describe the effect these heavy, dark things had on us. I had a disagreeable sensation of putting on a straitjacket as I struggled with the shirt and collar. After twenty minutes to effect this change, a voice on the telephone announced that the *prolo* was waiting. Ver Menisto ascended with us to the roof.

"I believe I will go with you," he remarked. "If it is foggy at London we can drop you at Hyde Park."

We climbed aboard, the engines hummed a higher note, and the *prolo* arose effortlessly from the roof. The last gleam of light had vanished from the mountain and the yellow afterglow of the sun was fading over the western hills. Overhead the sky glowed a deep blue, while in its depth an occasional star shone steadily. El Zoia saw us watching and pointed.

"A. N. 2 . . . Venus. You would be interested . . . an unique world . . ."

As the velocity increased the city slid ever more swiftly beneath us. Its luminous streets gathered together until they took on the semblance of a giant spider web. The mountain, a dull white now, fell away on the right. Ahead a sombre dark plain extended north. The jungle, the desert, Egypt . . . England . . .

Somehow as the lights of Zongainia vanished one by one I felt a regret, a vague wish to stay longer, to see more of this land. In the darkness of the cabin visions of the world, the old familiar world of houses and street cars, and noise, and rush, became clearer. I began to reconstruct mentally the broken thread of my existence, cut so suddenly . . . was it only six months ago? Cummings and I would go back to New York and write up our paper on metaphoric rock deposits of North Africa. There would be questions to evade, curious acquaintances to avoid, inconsistencies to cover up about those six months.

It was now completely dark, only the thin wail of the upper atmosphere told that we were traveling more than eight thousand miles per hour. Above, glittering in a velvety black sky, lay the Universe. Were these stars real? Yes, they were real enough, for beneath our feet the steel floor of the *prolo* vibrated with the powerful motors. Real now, but I felt that they would soon vanish into nothingness with the *prolo*, after we had landed.

The hour passed quickly. A reflected gleam from the crescent moon told of the Mediterranean, miles below. And then the *prolo* dove downward into the thicker air; the whistle of the wind increased and gradually a dim orange glow appeared in the mists ahead.

"That's old London all right," said Milroy, in a shaky attempt at humor, "look at the fog!"

Suddenly we decelerated. Out of the vapors came the

outlines of buildings, towers and a vague confusion of traffic arose. The spectral shape of the Parliament building passed close, dull and squatty beside the white Zongain Tower, and then branches scraped against our runners, leaves whipped past the window, and we had landed! Some one opened the door and extended the ladder gangway.

"Hurry, don't want to be caught by a bobby," whispered El Zoia.

We descended to the damp grass. A gentle rain was falling. We waited. In the doorway above El Zoia stood, his white garment shining in the glow from a distant street light.

"Remember," he cried softly, "when you want to come back, Zongainia will welcome you . . ."

The *prolo* swiftly arose. "And . . . good-bye." He raised his arm to wave and then the trees blotted him out. A slight breeze rustled the foliage and the mist wet our stiffly pressed suits. For many minutes we stood as men in a trance, and then Pfeiffler said:

"Leds . . . leds get in before ve get all vet."

THE END

SOME DAY THE MOON

by Robert Friend

Some day the moon with wings of fire
  Will dart into the sun;
And there will be no smouldering pyre
  To mark its spot when gone.

The years will roll by one by one
  Into the shrivelled past;
And suns and moons, their travels done,
  Will sink to rest at last.

Oh, puny man may ask the why,
  And ponder time away.
But still the moons and suns will die;
  And still the man will say.

"From out the darkness of the years
  The stars and worlds were born;
From out behind the trillion spheres,
  A light came that is dawn.

"And time will come when dawn will fade
  Into the glooms of night . . .
The WHY, O God?—I am afraid . . .
  The dawn?—Oh! give me light!"

EPILOG TO THE RUBAIYAT

by J. Z. Howard

At least one solemn moment, every eye
Has gazed into the tantalizing sky,
And marveled vainly at those twinkling Points
Whence unseen Eyes fling back the futile "Why?"

If one could leave this little Earth, and soar
At will along the Vast's mysterious shore,
Should he the Riddle of the World resolve?
Nay, but return more baffled than before!

Upon the farthest spheres should he not find
Quaint Living Things, perturbed by dawning Mind,
Peering and puzzling on the Universe
As helplessly as those he left behind?

PLEA TO SCIENCE FICTION

by Don Fernando

O take me away from the humdrum of life,
  Away from the toil of man.
For I would roam the Universe
  To learn whate'er I can.
For I would solve the mystery
  Of sun and moon and star;
  Of comet and of meteor,
And learn just what they are.

And I would ken the myth of Time,
  And far-flung future scan;
And steamy past, when lizards huge
  Ruled all where now is Man.
And I'd go back a billion years
  To view Earth's primal stuff—
Vast glowing clouds of flaming gas—
  A Cosmos in the rough.

And too I'd play with forces huge
  That God alone should know.
The Universe would all be mine,
  And planets homage show.
Until at last when gone quite mad
  I'd have a devil's fun,
I'd seize the planets one by one
  And feed them to the sun.

And I would peer with musing gaze
  As world-stuff fed the flames,
And all that Man had loved or feared
  Lay molten in the blaze.
And when all of this was neatly done
  The magazine I'd drop;
And view with sharp dismay my watch—
  "Good Lord, it's twelve o'clock!"

EXILES OF MARS

By **Frank K. Kelly**

(*Illustration by Paul*)

Silver and green fire seemed to mushroom out of the sand to brush away with hungry fingers dozens of the savage figures. A gap opened in the lines of the raiders . . . .

EXILES OF MARS

by the author of "Red April 1965," "The Radium World," etc.

THE sun sank slowly down beneath the crest of razor-backed hills, its last long rays spilling out over the desert in a golden flood of light. Great piled dunes of scarlet sand took up the faint crimson beams and cast them back and forth in flashing cascades of eery brightness . . . They faded, vanished. Night, sudden and complete, dropped with soundless speed over the desert. Over the edge of the distant hills the racing moons of Mars swiftly rose, spilled pale light down over the sand. A faint wind came, and brushed along the dunes with light fingers, whispering . . .

Armiston made a savage motion of despair, and tore his eyes away from the bleak scene. His hands clenched hard at his sides, whitened knuckles showing through brown skin. He turned, walked away from the huge glassite dome-port set like a great round eye in the smooth black metal of the tower wall.

His glance swung over the stark bareness of the tower room; the little stellite-glazed table; the five stiff-backed, metal-bound chairs; the narrow record-cases ranged along one wall, stacks of film-spools faintly glimmering in the dim light. All of it sterile and dead as the desert outside, typical of the grim reality of the Tower Station, sole supply of the eca-radium that was man's greatest weapon in the never-ending fight against Cancer Four.

Armiston's eyes caught the straight, taut figure still standing beside the great dome-port, and tightened with sudden bitter anger.

"Good God, R. G.! Quit standing there with that accursed grin of yours! You can't —*like* this! I can't stand much more of it, myself. Oh, damn it! It's driving me—completely mad! A little more and I'll—"

The older man turned sharply from the lookout port, sudden concern in straight grey eyes. The little smile of fascination that had crinkled up his long, firm lips vanished into a half-frown. He came over to where Armiston was sitting slumped in a chair, head on folded arms. His hand caught Armiston's shoulder in a grip that made the younger man wince.

"Cut that, Bob! Come out of it! You've got to be a man! I think I know how you feel—but it's too late now, old fellow. You should never have come here. I realize that. It was a mistake all around. Why did you?"

Armiston raised his head slowly, met the grave eyes. He shrugged, shoved back drooping shoulders.

"I was a damned fool, R. G. A fool. It was a woman, of course. In Korna. I thought I loved her—I thought there was nothing left for me after she—tired of things . . . Nothing except this. So I volunteered. They wanted one man. They took me." Weber nodded, gravity masking pity in his eyes. A queer, pale-white scar along the line of his jaw throbbed a little, as at a vague, distant memory . . . He said quietly, his hand on Armiston's shoulder:

"I see. I'm sorry, Bob. I wish there was some way I could—send you back, but I suppose you know that once here . . . Always here."

The bitterness and despair came back behind Armiston's eyes. "I know. That's the hell of it. Good God, the thing's monstrous! To let us sit here—rotting! Why do they condemn us to *this?* It's inhuman!"

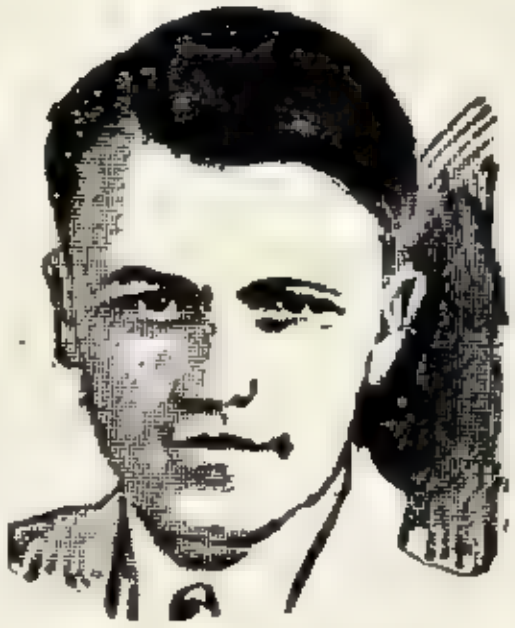
"No," Weber said unwaveringly, his voice like a bared sword.

"It is very human, Bob. It is for all humanity—on whatever world it may be. You know why we are here . . . Have you ever seen a case of Cancer Four? Then you know what I'm talking about. Eca-radium, sealed in capsules of entonium-isotope, is the only hope, once you've got—*it*. Somehow, the radiation of the eca counteracts the slow destruction of tissue caused by the infection . . . With eca-radium, you live; without it, you die—an undescribable death.

"That's why we're here, Bob. Just four of us; the Council would condemn no more to certain death. And no more are needed, with the equipment here, and the Guards to help us . . . You understand, Bob?"

"Yes," Armiston said slowly, his eyes queer. "Yes . . . What happened to the man before me?"

Weber looked at him. "He lost his grip. Tried to get away. They caught him before he'd gone half a mile . . . Do you want me to tell you any more?"



FRANK K. KELLY

OF ALL the solar planets, Mars is perhaps the most intriguing. The pictures we have of it —as a great desert, alternating with spells of torrid heat and frigid cold—make of it a place where stirring adventures may take place.

The climate of Mars may give rise to strange forms of vegetation and stranger animal life, and when we come in contact with such life much fur will fly.

The present story is original, for it pictures no interplanetary war, and no attempts at world or even planetary conquests. It deals, in fact, with the brute struggle with nature; with such elemental things as thirst and disease. And back of this struggle, in which a handful of men represent civilization, we find all of the best qualities in man: his bravery, his fighting will, his willingness to sacrifice himself for his race. Such qualities are those that have always been developed in pioneers, as Mr. Kelly points out in this absorbing story.

"No," Armiston said quietly. "No. I understand what you mean—perfectly."

Weber looked at him, eyes grave and direct. "I hoped you did. I wouldn't want anything to happen." His voice died.

Armiston straightened, made as if to speak again, but at that instant a bell tinkled musically in the wall behind them; and a panel slid back into smooth metal, revealing a square of smooth vibra-screen. A man's face sprang with startling suddenness out of the vague shadows—a narrow, acquiline face with grave, luminous dark eyes, queerly outlined against a strange-shaped head covering of crimson metal fabric. The man spoke, his voice husky:

"Greetings, R. G. You two're on. Come down on Car V-7. Number 8's cut off for a while; Council orders. They want everything we give them—and more. I think something's up."

WEBER nodded slowly, his face grave. A sudden uneasiness rose behind his eyes at a brief thought, and was crushed down. "What have you been running, Ta?"

The other glanced at a narrow strip of metal fabric tape in one black-gloved hand. "Ninety tubes AC-9* per minute; other stuff running all the way up to two hundred. Things must be bad—back in Korna."

"Yes. They must be."

Weber nodded again, the tense lines in his face deepening. He shuddered, remembering the carnage of the epidemic of Cancer Four** three years in the past. "I see. Cut off. We'll be right down."

The other waved a hand in an affirmative motion, cast a single, hard searching glance at Armiston's white face, and cut off. The screen darkened; the panel slid down into the wall again.

Armiston forced a tight smile. "I saw that too, R. G. You needn't worry. I'm not going to crack up—for a while yet."

Weber grinned; his face underwent a queer change in the process, breaking up into little fine lines and furrows, the white scar dissolving in a luminous glow. He looked queerly human.

"That's the talk I like to hear from you, Bob! Let's go! While there's life, there's hope!"

"Yes," Armiston said, with a queer twitching of his mouth. "Yes. Except here."

Weber said nothing more. They crossed the room together, pressed a stud in the polished metal of the wall. A panel opened soundlessly before them, revealed the softly lighted interior of the lift car.

They stepped in together; something mechanical made a soft purr, and the panel closed. The car slid into silent motion. They sank swiftly downward.

At the bottom a second panel opened from the smooth wall of the lift shaft—opened into a narrow, air-tight box of a room lined with doubly-thick coatings of black insulating-metal.*** Ungainly metal fabric suits lay on narrow benches against one wall; beside them perfectly fitting masks of dull crimson huddled shapelessly.

Armiston and Weber climbed into the suits in silence; slid the scarlet masks down over their heads, buckled connections fast—then surveyed each other through the translucent substance of the red metal fabric. They looked like a pair of weird metal monsters, hooded over with the scarlet masks.

Weber went to the vibra-tooth inset into the opposite wall, and angled for visual connection with Ta-Rigo, the man who had summoned them from above. Presently he answered, from a dim-lit booth in the cavernous vastness of the generating room; he showed long teeth in a white smile. He made a motion; brought his sister, Ona, into view for a flashing instant, then waved gaily at Weber.

"All well, R. G. Come out."

Inexplicably, but as always, Armiston's body was shaking. A sudden revulsion swept over him; O God, how he hated all this! And now—to go out into that hell of monstrous industry for another gruelling age of dull, unceasing torment! He couldn't stand it—he couldn't!

Beads of cold sweat broke out on his face, coursed in little rivulets down past his chin . . . Then suddenly he glimpsed, just for an instant, the bravely smiling oval of the girl Ona's face—and fear left him, was crowded into the dark corners of his mind. If this little Martian girl could stand it, he could.

Weber pressed a stud in the thick metal wall of the room; a great panel opened before them, disclosed a narrow box-like chamber, triply reinforced by layers of the black metal—the entrance-lock! Together, Weber and Armiston stepped into the lock; the panel closed silently after them.

After a brief instant, the wall before them seemed to fade away, and the two men crossed swiftly over the threshold of the lock, and found themselves standing on a narrow cat-walk, staring down into the Room of Rays . . .

Armiston stared, as always, with a fascinated wonder: Already his body trembled to the dull, aching impact of swirling vibrations. His eyes swept over the dim, towering masses of whirring, clicking machinery; they ran on to banked rows of super-photocells, silently storing in vast reserves of energy from the sun-mirrors spread in mighty network on the desert above; they leaped along coiled lines of condensers and gently whirling drums and clicking motor switchboards—and found at last the things upon which all this vast activity was centered: the ray tubes!

Great, towering masses of fused quartz, ranged in two great ordered circles about the central generating chamber, the tubes lanced upward giant-like into the dimness of the huge room's roof. Constant flame, the white coruscation of 20,000,000 volts bridged the gap between the glowing hot points of huge stellanium electrodes; leaped out in narrow white fingers toward the thin metal shield guarding the tubes' farther edge; they poured a scintillating cascade of power over into the central chamber of the whole vast system—whirling electronic streams, bombarding with terrific force the heavy atoms of the ectoranium in the center of the chamber.

ALL that vast outpouring of energy, gathered from the sun-mirrors on the desert above into the photocells, intensified by the battering action of the tubes, pouring out upon the great block of dully gleaming blue-green metal that lay in the middle of the central-chamber—pure ectoranium, element 94, broken down by the titanic action of the electron stream into precious pools of eca-radium, most valuable derivative of radium!

Slowly, trickles of glowing white liquid dropped down from the great block of metal, flowed sluggishly out

*AC-9. The tubes of eca-radium were in varying sizes, ranging from one hundredth of a gram up to nine-tenths. AC-9 then, indicated that the tube contained nine-tenths of a gram of eca-radium. AC was the chemical symbol adopted for eca-radium.

**Cancer Four—The disease was so called because it was believed to have originated on Mars, fourth planet of the solar system. Infection by it meant a slow, inexorable tearing-down of the body tissues, resulting in a lingering death. Terrestrials were especially affected.

***Insulating-metal. An alloy of metal isotopes of lead and zinc. The suits worn by Weber and Armiston also were made of this material, which was the best-known protection against the deadly short rays released in the process of breaking down the atoms of Element 94 into eca-radium. The red color of the head coverings was caused by the addition of another metal which, rendering the masks translucent, was adapted to the face. No known metal completely shut out the impessant torrent of short waves.

through narrow vents of triply-braced zinconium* into narrow tubes of crimson metal.

Laboring robot arms came down from the dim bulk of nearby machines. They caught the tubes, sealed them white-hot, thrust them swiftly into the openings of repulsion-tunnels, to be caught up into the never-ceasing stream of tiny projectiles hurtling half across Mars to the receiving depots of Korna. There they would be shipped by tube and helicopter and rocket-liner, to the massed cities of the Federated Worlds—strong allies in the incessant war on Cancer 4, dreaded scourge of the solar system.

A sudden thrill rocked Armiston's soul for one delirious instant; no man gave better service to the worlds than these four bitter exiles who labored here in the subterranean pits of the rays, submitting uncomplainingly to the slow rotting death of ray-infection! Weber, the Chief —Ta-Rigo—Ona—and now Armiston! Four names known and revered the system over!

In a sudden glow of vicarious martyrdom, he swung down the catwalk by Weber's side, took his place beside the older man at the great central-control towers that looked out over the vast room. He was even able to wave gaily at Ona as she passed him, tired and pale, going down to the entrance lock . . . The girl smiled back tremulously and Armiston's heart was suddenly warm. Then she was gone . . .

Monotony . . . Dull, aching monotony, throbbing with the intangible, creeping menace of fingering short rays—sitting before the complex, winking vastness of a huge switchboard, strapped to the hard metal of a seat—held down, helpless . . . Only able to reach out tired, metal-gloved fingers, and fling a switch over at the warning of a scarlet flash; pull it back at the winking glow of emerald green . . . Armiston felt himself slowly going mad . . .

Weber, sitting three feet away from him, eyes fascinated by the creeping, clicking, thundering, sobbing rhythm of the great mechanisms scattered over the room, each one a smoothly-working cog in a vast hole . . . Weber, brain afire with a queer sensation of uncanny ecstacy, realized that the rays were conquering him. That slowly, inexorably, they were eating through the thinner protective covering of crimson metal over his head, fingering down savagely into his brain, sending him an unmistakable warning of—death . . .

He wondered if, after all these years of this, he was going mad . . . What did the Martians call this vast bleak Desert whose heart held the room of rays? En-o-Dah—En-o-Dah. The Desert of Lingering Death . . .

He glanced across once at Armiston, and sat up sharply, deep alarm behind his eyes.

Armiston was slowly cracking—breaking up under the constant onslaught of the rays, even though his time here was measured in days, and Weber's was in years . . . Something—he'd have to do something about that . . . Why was it so hard to think? Why did his brain feel weighted with lead, barely able to move with creeping thoughts? He knew, and fought frantically to keep from succumbing to the insidious madness that lived in him. More depended on him and on Armiston than saving their own lives. Three worlds called unceasingly to fight the unseen, uncanny menace of Cancer Four . . . If he failed now, and Armiston went down in madness . . .

He shook his head sharply to clear his brain, reached down and unstrapped himself from his control-board, glanced down once at the quiet surface of his switch panel, and hurried across the narrow catwalk between the control towers.

His metal gloved fingers closed hard on Armiston's shoulder; he shoved his face down close to the younger man's.

"Come out of it, you snivelling fool! You've *got* to stick! I won't *let* you go mad! You don't get out of things as easily as that! If you've got an atom of guts in your filthy body . . ."

"That's enough, R. G.," Armiston said through white lips; he waved a hand feebly. "Go on back. I'm—right as rain, now. It—just comes on me in—waves. Gone now. Get—back."

Weber stared at him a minute, eyes focused in a long, searching glance; then gave his shoulder a fierce grip and was gone. Nothing else happened on their shift after that . . .

A bell rang in deep, sonorous tones suddenly, its throbbing sound reaching even through the hollow thunder of the machines in the great room.

CHAPTER II

The Coming of the Vandals

ARMISTON started, forced moist lips to split into a thankful, tight-lined smile. Shift over! Hours and hours now of rest, and comfort, and thinking . . . That was the worst—thinking . . .

He rose stiffly, stared out over the room, eyes fastened on the narrow platform, jutting out from the outward face of the entrance-lock. The panel opened; two black-clad, crimson-hooded figures came toward them, laboring up spidery lengths of metal ladder, clambering close . . . Ta Rigo and Ona stood presently beside them, panting a little. Ta Rigo waved a gay hand; nothing seemed to affect this tough-skinned, keen-witted little Martian. But the girl looked tired.

"How goes it, my friends? . . . Still—ninety, R. G.?"

Weber nodded gravely. He was himself again—master of the insidious fear that lived in all of them.

"Still ninety. I'm afraid something's up in Korna. Ona, you look tired. Let me take the first half of this watch. You go on up with Bob."

The girl flushed indignantly, forced stiff lips to move in protest. "No, no! I am not tired at all—really. I cannot let you do this for me—R. G."

It had been long, Weber reflected queerly, since she had called him that—never after Armiston had come. He smiled at her, gave Armiston a little push.

"Get on—both of you! It's not the first time I've taken double watch is it, Ta, old friend?"

The lithe Martian grinned, looking at him affectionately. "Indeed not. I am afraid, R. G., that you and I are a bit too tough to kill. It will take more than—*this* to do that, I think. Go on, Ona."

The girl glanced from one to the other of them, hesitating.

Armiston moved forward a little, glance pleading. "Please, Ona."

The girl shrugged, laughed a little shakily. "Three against one—what can I do? I will go."

Armiston caught her hand; the two of them climbed past Weber and the silent Martian, vanished down the narrow ladder, reappeared again below. Weber and the Martian watched until the panel of the entrance lock had closed behind them.

Then a single silent glance of understanding passed between the two men, and both turned as one to their switchboards—from which neither had really relaxed his vigilance while watching Armiston and Ona.

Armiston said, in a low, flat voice: "Ona, I am afraid. I think I am going mad . . ."

*Zinconium—The insulating metal.

He did not look at her. They were in the tower room again, sitting opposite each other at the little metal table. The girl looked at him with wide, softly luminous eyes. Her thin hand came out and touched his fingers, pressed them in a warm, soft grip.

"I know, Bob. I am afraid, myself—always. Who is not—*here?* Even R. G. is a little afraid, I think . . . The brave man, Bob, overcomes fear."

Armiston raised his head and looked at her. For the first time he really saw her as she was; saw the slim, proud litheness of the small body; the acquiline, intelligent little face; the luminous eyes; the glorious crown of sea-green hair . . .

"That's so," he said slowly, dully. "That's so. You're brave, Ona. More than brave . . . Beautiful. Have you ever heard that word before? It is an old word, in Earth's language; but I like it. It fits *you*."

She looked at him queerly, met his straight glance with fascinated, half-troubled eyes. "Am I really—beautiful, Bob?"

"You are," he said softly, and closed his big hand over her small one. "You are—really . . . I love you, Ona."

She drew back from him abruptly, sudden livid terror in her eyes. "You should not have said that! You must not say it! There is no room for love—*here*, Bob . . ."

"There is room for love—everywhere," Armiston said, and came around the table. He caught her in his arms. A long moment was given them of close, satisfying embrace, an ecstatic breath of happiness in a place of sorrows—the first bit of happiness that austere room of metal had ever looked indifferently upon. And the last.

The soft tinkle of a warning bell separated them. Armiston frowned impatiently, and would have swept her back into his arms; but the girl shook her head, slipped away. She went to the wall, where a panel was swiftly opening.

The vagueness of the vibra-screen cleared away, vanished; slowly the image of the caller showed on the little glowing square . . . There was no face. There was simply a half sphere of glinting white glassite, through which was dimly visible a gently throbbing mass of grey, jelly-like substance. The whole mounted on an ungainly tripod-shaped metal mechanism, capable of swift movement upon the flexible metal tentacles it called legs. A metal man, one of the increasing thousands beginning to throng Mars—once a being of flesh and blood, now a great brain mounted on metal. It was the last desperate resource of a dying race; a brain lives very long, and consumes very little food and moisture . . .

THERE was a bright-glinting object inset into the stark whiteness of the head dome, and Armiston suddenly recognized the thing as M-7, Commander of the guard of metal men that surrounded the Tower Station—for protection against the hordes of desert vandals. The grey mass of the exposed brain quivered, and the vibra-screen blurred and shook; Armiston had the uncanny sensation of a voice speaking in his brain:

"M7, Commanding 12th Guard Squadron, reporting. Will you give me audience? I have—news."

The girl pushed Armiston aside, a thin line of worry growing between her pale brows. "Of course. Use lift V-2, Commander. At once. We will await you. Cut off."

"Cutting off," the brain echoed mechanically, and the screen went dark. The girl swung and faced Armiston.

"Something's up. I can tell by what was in M-7's mind. There's trouble—somewhere . . ."

A bell rang warningly. Slowly, a long panel slid back into the metal wall, and the metal Guard untangled his grotesque body from the crowded little lift car, and came into the room, stood swaying gently before them. The girl snapped a question:

"What is it? There is—trouble?"

The brain in the glassite case quivered; again Armiston felt that curious mental shock. "Yes, High One. Trouble, a little way above us. A raiding party of desert savages attacked the Guard Station at Zee-Boma; they carried it—but not before warning had been sent out. The warning was caught in the signal-room here. The vandals have taken a course directly across the Fire Mountains above us. No danger for—here, but the 12th Squadron may be ordered to pursue. I thought I would warn you."

"You did right," the girl said slowly, nodding. She stood a moment in silence, thinking. Curiously, Armiston did not question her right to command; she slipped into it naturally.

"We will go with you to the signal-room," the girl said suddenly, making a swift decision. "Come, Bob."

Armiston nodded, followed without question. The queer ungainly thing before them swayed on its flexible tentacles, made an odd mechanical bow. A tentacle whipped out and pressed a stud in the wall, summoning the lift.

Armiston could not keep his eyes off the unblinking impassiveness of the captive brain in the case; strange to think that this metal monster had once been a Martian, as human as Ona or himself! It was a grim prophecy of the future of the Martian Old Race; every year more and more of them, desperate with thirst for water that could not be had, were joining the ranks of the metal men—or swelling the numbers of the savage, maddened hordes that scourged the deserts of the planet. Soon the human races of Mars would be gone, swept away, wiped out by an inexorable nature. How long before the thin ranks of the metal squadrons battled against thirst-maddened desert hordes for the possession of dying cities? . . . Ghastly to think of Ona, lovely and desirable, chained captive in an ungainly body of metal!

The girl caught at his arm impatiently. The panel had opened in the wall before them; the metal guard was motioning with a great tentacle that they were to go down first.

He stepped forward with the girl, crowded close to her in the little metal car. The car sank downward.

Below, a panel opened again into a metal wall, and he and Ona came out into the dimness of the signal-room. There were two of the metal Guards here, working silently at giant vibra-screens and audio-detectors, sending and receiving, forming a link in the world-girdling chain of Guard Stations. In one corner the helio apparatus was silent and unmoving. It was not often used, except in cases of extreme emergency.

The panel clicked behind them; Armiston jumped nervously at the gentle forward shove of a metal tentacle. He swung half-angrily on the Guard, but the girl caught his arm, urged him forward.

They stood near the helio apparatus, staring out through the round opening of a small glassite port, watching again the lambent crimson mystery of a Martian sunset. For the first time Armiston found the bleak cruelty of the desert subtly beautiful.

Night, sudden and complete, had fallen over the desert. In here, dim and muted by distance, they could hear the soft whisper of a rising wind—a thin, high wind, howling the dirge of dying Mars . . . A queer shock stabbed suddenly through Armiston's brain. There in the distance—had he seen that pin-point of sudden white light cutting the velvet blackness—or was he going mad?

He was not mad. The girl had stiffened suddenly beside him, slim body taut, eyes intense upon something in

the distance. She turned, flung a stream of words at the metal Guard Commander. He came closer, shoved Armiston impatiently aside, stood with that ghastly naked brain held slightly forward—toward the dark blot of the distant mountains . . . The grey substance of the brain was palpitating, stirring—suddenly Armiston was very sick, the room whirling before him.

BEFORE his gaze the thing had turned, twisted—and projected out of the quivering protoplasm of the brain an eye! Armiston met the cold, piercing glance of that eye for a shuddering instant, and turned away, sickened . . . The brain was throbbing again:

"Yes, High One. You are right. There is someone, something out there . . . signalling . . . Using Guard Code. I can read parts of the message. I can get all of it now."

The girl gripped Armiston's shoulder with painful force. He felt her body quivering beside him. "What does it say?"

The brain shook, made a mighty effort. "It says: 'Guard Station, Ale-Tau. To all Guard Commanders, Sector V-4, South: Attacked by raiding party of desert savages. Leaders maddened by thirst . . . Great numbers . . . More coming from hills . . . Afraid—can't hold out much longer. Using last charged—V-Tubes—now. All Guard Squadrons: Emergency call: Aid requested! Urgent!' . . . The message ends, High One."

The girl forced quivering lips to move. "That is all?"

"That is all."

Armiston met the girl's eyes. There was fear in them. He looked at her in surprise. "You are afraid, Ona. Why? What could be worse than—*this?*"

She looked at him queerly. "I am not afraid for myself, Bob. But there are so many—depending on us So many—who will die, horribly, without the tubes. Three worlds—depending on us, Bob. If anything happens—"

And suddenly he understood—and for the first time uneasiness seized him. They were almost defenseless—and if the Guards left . . .

"What could happen?"

The girl shrugged, eyes uneasy and worried. "I don't know. Nothing, I suppose. But if the Guards go—"

Armiston remembered the metal man, standing silently between them. He looked across at the queer, ungainly metal thing, and felt a sudden respect and unreasonable confidence surge through him at the sight of it. He asked quietly:

"You will have to go?"

The brain quivered; again Armiston felt the shock of a small, soundless voice speaking in his mind. "Yes. It is the Code of the Guard, High One . . . I do not like it. But I must obey. I will leave two here to guard you. You will be safe."

"Of course we will be," Armiston said, looking at the girl. "Of course . . ."

The girl nodded slowly, her eyes troubled. "I hope so, Bob. But if you are wrong—"

The metal Guard Commander was giving swift orders. The helio apparatus began to swing and flicker, swing again, flicker again, back and forth . . . And out on the vast reaches of the desert, small points of white light flickered in answer from night patrols, leaped up sharply under the pale glow of the racing moons swinging across the dark sky . . . Slowly, in ones and twos and threes, the patrols trickled in from the desert, formed in taut, ordered rows below, at the ground-entrance of the tower.

The Guard Commander stopped giving orders suddenly, snapped terse commands at the two Guards in the signal-room. He turned, and stood before Armiston and the girl. The brain quivered.

"I must go now, High One."

The girl nodded, her straight eyes facing the ungainly metal bulk. "Yes. We will be safe until you get back, M-7. Good hunting!"

The brain shook queerly. "Ai!"

The Guard Commander turned, walked slowly to the opposite wall, extended a flexible tentacle to press the stud for the lift car. A panel slid silently open; the metal thing stepped into the waiting car, dropped downward out of sight. The panel closed slowly.

Armiston and the girl stood a long time at the lookout port, watching the burnished metal forms of lithe-swinging squadrons dwindle into nothingness against the dark background of the distant hills . . .

They were silent and abstracted, going up to the tower room in the lift. Neither thought of sleep. Some indefinable sense of impending danger drove them from the tower room downward again to the entrance lock of the room of the rays. Swiftly Armiston donned heavy metal armor, slipped the crimson mask down over his face; waited in silence until the girl stood beside him at the outer edge of the lock. Somehow, Armiston's fear was gone.

They stepped out together onto the catwalk leading down into the vast room, clambered past the jutting bulk of clamoring machinery, moved upward slowly into the control towers—and presently stood panting beside Weber and the Martian.

Weber flung them a quick, searching glance as they came up. His hands played swiftly over a narrow keyboard inset into one corner of the giant switch panel, locking home the automatic controls. Ta Rigo did the same, and presently stood beside them.

"What is it?" Weber demanded, lines of anxiety deepening in his face. "Something's up?"

"Yes," the girl answered." The Guards have been called away. There's been an attack to the north of us—desert vandals. M-7 left us two Guards . . . R. G.—I'm afraid."

Weber looked at her, flashed a quick, worried glance from Armiston to Ta Rigo. He said slowly, softly:

"So am I. Something's doing in Korna. And if that wasn't enough to worry us, we get *this!*"

"What are you running?" the girl asked, eyes suddenly widened. Weber answered tersely:

"Ninety-five Ac-9 every minute. We'll leave control to the automats for awhile . . . We'll have to. I've got to talk to Korna; they'll be trying to get us, likely enough. Let's go."

Armiston and the Martian nodded, followed swiftly in the path of the older man, who was moving side by side with the girl, and talking rapidly. They reached the lock, stripped off the cumbersome, ungainly insulation-suits, threw them aside with the heavy crimson masks.

CHAPTER III

The Great Sacrifice

TOGETHER, they crowded into the lift car, rode upward swiftly to the signal-room . . . The panel closed behind them; Weber shot a quick, keen glance over the dim outlines of the great room; took in the steady, certain movements of the two metal Guards in one corner; rested on the huge bulk of the darkened center vibra-screen.

He swung on the three behind him. "Stay here . . . No, you'd better stand by the lookout port; there *might* be something to see . . . Ona, you have keen eyes. Use them. I'm calling Korna."

He strode forward, flung himself impatiently into the narrow control-seat of the great screen, worked rapidly at banked rows of control studs. The screen glowed, swirled, steadied into focus; a great brightly-lit room, crowded with whirring machinery, came into view; a red light flashed insistent warning that both visual and audible connection was wanted with Korna.

The exchange-room vanished; Weber met the keen black eyes of Travisgane, Councillor in charge of Communications. Worried lines were carved deep into the Councillor's high white forehead, a kind of horror burning behind his eyes . . .

"Weber! Thank God, it's you! I've been trying to get you for hours! Your center-screen's been dark. Anything wrong?"

Weber hesitated, shook his head slowly. His eyes never left the other's tired, harassed face. "No, I suppose not. Nothing definite. But M-7's been called away; a raiding party's struck across the Fire Mountains. All Guard Squadrons in this sector have been called out. I suppose we'll be safe enough."

The Councillor did not look as if he were even listening.

He nodded; and suddenly the half-mask of impassive restraint dropped away from him, and Weber saw through to the despair and weariness beneath.

"There's trouble enough here, Weber. Gods of Space—the horrors I've seen this last hour! Weber, it's up to you—and Ta Rigo. We'll go under if you can't keep up that flow of 90 AC-9 per minute; even that just barely covers the situation . . . If it gets any worse . . ."

"Good God, man!" The words burst from Weber in a short, quick gasp of dazed amazement. His eyes bored into the other with a fiery intensity. "You don't mean—you can't mean—another wave of Cancer Four?"

The Councillor's shoulders slumped a little; he nodded wearily, something of despair in the gesture. His eyes looked dazed.

"But I do. Look."

He made a swift, impatient motion of command; the screen blurred, swung, flickered: and Weber stared with sickened eyes at a scene of unthinkable horror. Section after section, ward after ward, of the great Hospitalization Centres in Korna, packed to overflowing with warped travesties of the human form, utter suffering mirrored on unending ranks of cratered, flesh-thin faces . . .

The screen blurred again; and before Weber's eyes the ethereally beautiful, unearthly spires of Brez and Tela, twin polar cities of Mars, grew into view, covered the screen. They showed streets packed with a queerly hopeless, despairing multitude, dying by inches, toppling forward in twisted attitudes of death . . . And above, the airlanes crowded with spinning, driverless rockettes, plunging down from the heights in screaming wreaths of flame, loaded with cargoes of the dead.

"Enough, for God's sake!" Weber cried, and put his hand up to shut out the sight; the screen blurred again, and presently the Councillor was back, eyes grim and tortured.

"It's come again. You've *got* to keep supplying us with AC-9 . . . I won't think of what would happen if you fail—even for an hour. It would be hell, that's all. If this *could* be worse!"

"I see," Weber said in a choked, hushed voice. "I see. We won't fail, Councillor. I promise you that; I swear it. We won't fail. Cut off!"

"Cutting off," the other echoed, the shadow of relief coming into his strained features. Weber had a last, short vision of a weary travesty of a smile twisting the grim lips.

He cut off the last of the screen controls with impatient hands and swung out of the operator's seat, stood up, turned. The girl was standing beside him, face pale as death, eyes dazed.

"You saw?" he asked gently, touching her shoulder.

She nodded dully, something of unutterable despair in the movement. "I saw, yes. Oh, R. G.—"

She swayed, toppled, faintness rising between her eyes; he caught her in a strong, steady grip, put her on her feet again.

"Steady on, Ona. You've got to grin and bear it, my dear. We can't fail—*now*."

"No," the girl whispered softly, "No." She made a sudden short, jerky gesture toward the lookout port, where Armiston and the Martian stood frozen, staring out over the desert.

"Out there—R.G. We saw—something."

WEBER caught her arm in a sudden fierce grip. "You saw something?" He shoved her roughly aside, hurried to the port in short, quick steps; stared out.

Far distant yet, just topping the crest of scarlet and dunes silvered by the light of the racing moons, a vague, dark, rippling mass was flowing rapidly over the desert, sweeping down upon the tower. Weber strained his eyes, leaned forward—and suddenly felt despair crush him in an unrelenting grip. Vandals! A raiding party of desert savages, maddened by thirst, coming to attack them!

He swung suddenly away from the port, shook his spinning head in a dazed effort to think. Then he caught Armiston and the Martian in a savage grip.

"Come out of it, you two! We can't let them take us! I promised . . ."

Armiston stared at him helplessly. "But what will we do? What *can* we do? We've got nothing to fight with—except that old projector by the helio there. They'll outrange us, even with that. What can we do?"

Weber's face was a granite mask of determination. He kept seeing row after row of suffering, distorted creatures, calling in vain for the thing that would save them. And the tower, gutted and overthrown, its mighty mechanisms silent, strewn over the desert in twisted wreckage, burning in ato-furnaces to furnish fire-light for howling hordes of thirst-maddened things that had once been members of a proud, age-old civilization.

"We'll fight," he said fiercely.

"We'll fight with what we've got—and beat them. We've *got* to."

The girl moved suddenly, spoke. "An idea, R. G.: why not use our insulation-armor, when we—go out there to meet them? They'll find it hard to reach us through inches of entonium! And we can use the projector."

"You've struck it!" Weber cried exultantly, a faint glimmer of hope coming into his voice. "Bravo, Ona! And we've got our two Guards here to help us!"

He swung, faced the two metal men who stood impassively waiting in one corner of the room, their brain cases held slightly forward. He pointed out through the port to the advancing dark mass, now swiftly growing larger, like an ominous storm-cloud about to burst and overwhelm them.

"We're going to fight, my friends. Out there. We four will handle the projector and you have your hand weapons. Use them. What more could anyone want, and be reasonable?"

The brain of the nearest rippled in sardonic approval of the other's grim humor. "Ai! May we find—good hunting!"

Weber laughed then, a little queerly; the first time he had laughed in long years. Since a certain one of far-

off Earth had told him that there could no longer be anything between them, and bitterness had bitten deep into his brain . . . He was filled suddenly with a heady wine of recklessness; come what might, they would give the devils a fight!

A little band of six figures crawled across a molten sea of rippling desert. In the lead four metal-armored, heavy-moving beings in human form, taut with a certain fiery eagerness for battle, strong with desperate determination, fingering the multiple controls of the glimmering, sharp-nosed ionic projector. Following on swift, lithe tentacles of metal—two ungainly, monstrous things, topped by glassite cases in which rested two naked, throbbing brains.

Awaiting them on the crest of the dunes was the enemy. A silent, huddled horde of savage creatures, begirt with fragments of metal armor, blunt-featured, heavy-browed, fingering crude flame-belching weapons of Earth's iron and steel. Here and there among them a squat, compact little heat-gun, taken by battle prowess from some Guard Station. It was a deadly, complacent little weapon, capable of throwing one hundred hissing shells of incandescent flame every minute in fiery flight. And all in the great horde with bodies and faces once cultured and clean-lined, but now marked by the ravages of heat and sand and the bitter cold of long nights under the stars—and parched with an overwhelming thirst.

Savages, Armiston thought queerly, climbing up to battle at the side of the tight-faced girl—savages of a strange planet, warring with madmen gone berserk in defense of their beloved science, fighting to uphold a dying civilization. Surely the strangest battle ever witnessed by the impassive, cold-white racing moons above!

A heat-gun chuckled suddenly on the crest of the sand-hills, and sent a sobbing stream of incandescent fire pouring down over the dunes; the six metal-armored figures walked on with contemptuous strides, ignoring the tingling red glow beginning to spread along tortured metal. The heat-gun stopped and died as suddenly as it had begun firing, and one of the metal Guards halted with grim purpose in the sand. He lifted a tiny silver capsule in a lithe tentacle—hurled it full into the heart of the crouching horde on the hills above . . . An atomic bomb!

THE capsule burst: silver-and-green fire seemed to mushroom up out of the billowing waves of sand, and brush away with hungry fingers a dozen ranks of savage figures. A great gap opened in the lines of the raiders; they fell back a little, dazed and stunned by that awful concussion.

Weber's face glowed with an unholy light; he chuckled queerly, the sound a dry, rasping rattle in the darkness . . . Armiston, his face dazed and horror-stricken, looked at him unbelieving eyes. Strange things, battle did to men!

Slowly the gap in the dark mass above was filled; and suddenly, with an utter abruptness that shattered pregnant stillness, pandemonium burst over the desert The horde broke up into a billowing, howling mass of madmen. They poured down in incessant streams upon the six who stood back to back in the center of the maelstrom, and fought with frantic, deadly coolness.

Three times the hungry waves swept over and half engulfed the six; and three times they were hurled back again in dismembered bloody fragments—impaled on the spitting electron stream of the projector.

The third time was the last. The horde was afraid and uncertain suddenly—and as suddenly retreated in wild rout. Weber and Armiston knew that it was victory.

Victory—but at a price. And what a price! Almost greater than Weber had been willing to pay. Ta Rigo was gone. And Armiston was standing dazed beside a great gaping crater in the sand, looking down at the fused mass of what had been two metal men, once throbbing with tenacious life . . .

Ona was crumpled up on the sand, sobbing over the tortured fragments of a man's metal armor. Weber leaned down slowly, and brought her to her feet, shook her gently.

"Carry on, Ona. It's what he would have wanted you to do."

"Yes," the girl said dazedly, the light gone from behind her eyes. "Yes. I won't crack up again, R. G. You can count on that. I'll—carry on."

"Good girl!" Weber said huskily, and turned away to hide the sudden moisture in his eyes. Armiston stood watching them both in a strange abstraction, his mind caught in a maze of horror . . . Queer, how hard they had fought for life—those three condemned! Queer—how bitterly they had struggled to keep from giving it up! Queerer still that he and Ona and Weber still wanted to live—still ached to keep the feeble spark within them burning . . . The primal instinct of protoplasm!

"While there's life, there's hope!" How long ago had Weber said that? Ages ago, certainly; in some other life. Not *here*. He laughed suddenly, with a wild note in the dry, rasping sound. Weber looked at him sharply, came over beside him.

"You were great, Bob. We've won . . . Pull out of it! We've got to carry on. For the sake of others. Help me take Ona back to the tower. I don't think *they* will try again, but there is a chance . . ."

Armiston nodded, fought off a mad desire to scream, laugh, do anything to relieve his insufferable tension . . . He caught the girl's arm on the other side from Weber, and together, with the girl between them, they made it slowly back to the tower. Ona walked unaided through the ground-lock, moving like an automaton, her dazed eyes staring straight ahead.

They took the lift up to the signal-room, stepped across the threshold of the dim chamber in silence, and in silence took places by the lookout port, staring out over the desert. Out there the shattered ranks of the savages had already begun to trickle together again, to reform slowly, very gradually. Thirst, Armiston thought suddenly, is a mighty welder.

Weber made a little inarticulate sound suddenly, moved toward Armiston, staggered, and toppled forward on his face. Armiston, cold horror chilling his brain, caught him up and laid him out carefully on a narrow bench. He felt under the light tunic: there was a raw, charred gash under his left armpit, cutting across the heart: a heat-beam had pierced his armor, and the wound had gone unnoticed in the fever of the battle. The girl came over slowly, met Armiston's eyes.

"Bad?"

Armiston looked at her for a long moment. "Very bad, Ona. I hate to say it—but he's through. We can make him comfortable . . ."

The girl brought bandages, and a little of their precious water. Together, they cleansed and covered the gaping wound, chafed Weber's pale cheeks with cold, nervous hands. He came around, opened his eyes slowly. There was a terrible burning intensity in them. He caught Armiston's wrist.

"Tell me, Bob—and don't be a sentimental fool. How bad is it?"

Armiston looked at him with unwavering eyes, slowly nodded. "You asked for it. I'm afraid—you're through."

Weber fell back on the bench, a queer despair coming behind his fine eyes. "Good God! And I promised—Armiston! Are *they* coming back?"

ARMISTON was hardly listening; his eyes had gone past the other, were staring with a tight, strained glance through the thin glassite of the lookout port . . . Out on the desert a white pinpoint of light was beginning to wink sardonically: a sending helio!

"Ona—look!" Armiston said suddenly, tensely. "Over to the right a little more . . . There. Do you see it? A helio. Sending. Can you—read the message?"

The girl stiffened beside him, strained forward, eyes tense upon the distance. "Yes. It is coming through clearly now. It says: 'Commander, the Tower. We would have you know that there is no escape for you. There is no help coming. M-7—was victim of a hoax. It was our signals he caught. He is too far away to return in time to save you . . . We are merciful. We offer you a chance to live. We know you have much water. Give it to us—and you live. Refuse—and we take it . . . Answer at once. Message ends. Grot, Leader, the Freedmen.' That is all, R. G."

A sudden silence fell over the three of them. The girl's mirrored an inward struggle, fierce but silent. The instinct of life was strong in them all—and Korna was far away . . .

Weber's eyes opened; by a supreme effort of will he brought himself erect on the bench, met Armiston's eyes in a long, grave glance. "Armiston, can you handle the helio?"

Armiston hesitated an instant. The girl was watching him with almost pleading eyes . . . He nodded. "Yes."

"Send this message—as our answer. 'You are wrong. We have only a little water. Barely enough for ourselves. And there are many who will die—if we die. We have nothing for you. Go away and leave us . . .' Message ends. Send it!"

His eyes met Armiston's still hesitant glance; he nodded imperiously. "Hurry, Armiston! They will be waiting."

Armiston shrugged, looked across a long moment at the girl, and went slowly to the helio. The great mirrors began to swing and flicker, swing and flicker, catch up and condense the narrow beams of light released from crowded photo-storage cells, send pulsing lances of white glow out over the sand . . .

Far out on the desert the white point of answering light leaped up again, came and went, came and went . . .

Armiston, very white, said slowly: "They refuse. They give us five hours to—reconsider. After that—they attack."

And then the girl spoke, the last spark of light gone from her eyes, her voice a dry whisper. "But we will stop them. R. G., listen. I have a plan. It will work—I hope . . ."

Weber's eyes opened again; by a tremendous effort of will that brought sweat in huge beads to his forehead, he sat up on the bench, fixed the girl with a hot, impatient glance.

* * * *

"Quick then, Ona! I—have not long. But I can work while—I can. I will try hard to live until you no longer need me . . . What is your plan?"

"This," the girl said slowly, and she did not meet Armiston's eyes. "One of us will take that suit of insulation-armor there, put it on. We will charge the projector directly from the storage cells of the generating room in the tower. It is dangerous, I know; but it is—the one way left to us. Charged with the power those great cells will give it, it can destroy all of the enemy . . . One of us will take the projector and go out to meet them. That is my plan."

"No!" Armiston cried in horror. "No! You're mad, Ona!"

Weber swung on him fiercely. "Quiet, Armiston! She is right. It is—the one way out. I will take it, of course. Get the suit . . ."

Armiston's lips opened to protest; and closed before the terrible intensity in the other's face. Silent, he helped the girl pick up the heavy suit, bring it near the bench. Muscle cords bunched and throbbed under the skin of his throat; slowly he rose, stood swaying on unsteady feet. Armiston extended a quick arm.

Weber struck it down fiercely. "No, man! Can't you see? I must—do it alone."

He gasped suddenly, the breath rattling in his throat. He took a single long, wavering step toward Armiston and the girl—and toppled face downward to the floor . . .

The girl was the first to reach him. She straightened up slowly as Armiston caught her shoulder, met his glance.

"He's gone?" the man asked, and read the answer in her eyes.

"Yes. He's gone . . . He said: 'Carry on, you two! I promised—' "

ARMISTON spoke fiercely his brain throbbing. "We will, R. G., we will! I think you know that, wherever you are now . . . It means of course, Ona, that I've got to take his place. We can't fail—*now*. We've got to go through . . . The projector's ready?"

"Yes," the girl said slowly. "We have an hour before they attack . . . The projector is ready."

"I will go then," Armiston said, looking at her for a long moment, drinking the vision of her loveliness in, as if imprinting it forever upon his mind. "We have an hour before they'll expect our answer. They'll get one—but not what they think. You know what you have to do when I—wipe them out . . . You're certain about it all?"

"I am," the girl said in a flat, dead voice: "I am to call, Korna; and have them send relief at once; then I am to lock the automats and hold out until the relief—comes. Is that right?"

"Yes," Armiston said, very close to her. "Yes . . ." He caught her for a long instant in a close embrace, brushed his lips along a stray tendril of hair.

"And that's goodbye, Ona. Remember—I loved you."

The girl choked back a dry sob. "Good-bye—Bob. Remember I said there was no room for love—*here?* I was right . . ."

"No," Armiston returned slowly, a glorious vision rising in his brain, "You are wrong. There is room for love—everywhere."

He pressed the stud in the wall that summoned the lift. The panel opened slowly before him; he went in, sank swiftly downward. The panel closed softly—closed upon the dry, choked sobs of the girl standing alone . . .

Armiston strode rapidly over the desert, the heavy little projector held easily before him. A curious lightness and freedom filled his brain, rocked his soul—blotted out even the knowledge that the tremendous power now held leashed in the squat bulk of the projector, that was shortly to be released to destroy both the enemy and himself . . . At last he was free from fear. And that was all that mattered.

He topped the crest of a sandhill, and came slowly to a stop. Almost upon him, gathered in compact, close-ranked masses, the hordes of the Freedmen crouched

silently, watching him with many eager eyes . . . He was so close that he could see the leader, a splendid savage brute, panting in great gasps for breath, the parched tongue lolling in the half-open mouth . . . Without a sound the hordes charged.

Calmly, as if he were viewing a record-film of some long-dead happening, Armiston crouched for an instant against the faint glow of the racing moons above, his cool grip tightening about the squat bulk of the quivering projector.

He pressed the studs. Great bursts of searing white light leaped out all around him, swept out in a vast half-circle that engulfed the horde in an instant dissolution of flaring force, rebounded with a thunderous concussion upon Armiston's metal armor—and exploded in a searing wave of white flame . . . Armiston was gone.

Behind, high up in the towering silver bulk of a great tower, the girl watched with fascinated, horror-stricken eyes, her face pressed hard again the glassite of the lookout plate . . . And slowly she turned away, a queer, hard determination written in the set lines of her face.

Moving like an automaton, she crossed the floor of the signal-room, sat down at the controls of the vibra-screen, and began to build up visual and audible connection with Korna . . . Presently the exchange gave it. The face of Travisgane, the Councillor of Communications, looked out at her with questioning eyes.

"Ona! What is it? Nothing is—wrong?"

The girl looked at him dully. "They are all gone except me. They are all gone. All gone . . ."

The Councillor said frantically: "Ona! *Ona!* Listen to me! Tell me what has happened! Weber and Armiston!—"

"Dead," the girl said in a flat voice. "Dead. Haven't I told you? They're all dead—except me. Ta Rigo, and R. G., and—Armiston . . . Send relief as quickly as you can. I am locking the automats. You've nothing to fear; they will supply you until you can send out some—fools, to take our places. But hurry; automats aren't safe after eleven hours . . . They can't hold dead center. You understand?"

"Yes," the Councillor said in a stricken voice, "Yes. All dead! My God! What happened?"

"A trick," the girl muttered, "A trick . . . Trick to get M-7 away and then attack here. They didn't win, though; couldn't beat R. G.—and Armiston. Armiston killed them all before he died . . ."

"They were brave men," the Councillor said softly, a little brokenly. "But you are brave too, Ona . . . We are winning the fight here; if you can keep up the supply of AC-9. Carry on, girl!"

The girl looked at him a little stupidly. "Yes . . . That's what R. G. said, before— You'll send the relief?"

The Councillor nodded. "Of course. In five hours. You can hold out till then?"

"Yes. I am locking the automats; they will last longer than that. I'll wait until the relief comes. But—hurry."

"Yes," the Councillor said. "Yes . . . Cut off."

The screen went dead. Slowly the girl got up from the control-seat and went to the lookout port, stared out at the bleak, hard cruelty of the desert, bitterness and hate in her eyes. The desert had won. The desert always won.

After a long time a sound invaded the soft silence of the room; distant, muted, but still the rising thunder of a fleet of rocket-ships slanting down over the hills . . . The relief.

The girl watched until the roaring ships were dimly visible, silvery blobs on the horizon; then she rose slowly and went down to the ground lock; set the automatic controls to open in three minutes . . .

And after that she went up in the lift to the entrance-lock of the Room of the Rays—and entered, without armor.

Slowly, every movement a queer torture under the unchecked impact of swirling short-rays, she moved down the narrow catwalk, reached the control towers. She passed them by unheeding, and walked grimly, doggedly into the nimbus of white flame that lived and grew about the surface of the tubes.

Slowly, very slowly, her body wavered and grew vague of outline; slowly, very slowly, it vanished into the cold embrace of the white flame.

Outside a thin wind rose over the desert, whispering . . .

THE END

Our Sun==As Others See It

Our own favorite star is so bright that it is almost impossible for us to imagine a universe where it is not the dominant luminary.

Yet, travel a few light-years away and our Sun becomes invisible to the eye while other stars of apparently feeble light are shining with apparently undiminished lustre.

If the majority of the stars we see on a clear night are circled by inhabited worlds (which astronomers now doubt) there are very few of these from which our sun is a conspicuous object; and none from which even our largest planet, Jupiter, could be detected.

From outside the galaxy our sun would be invisible, even with telescopic aid, and all of its bright neighbors except one—the name of which is perhaps familiar to readers of Wonder Stories.

Read this interesting article in the

JULY ISSUE OF

EVERYDAY SCIENCE AND MECHANICS

REBELLION ON VENUS

By Edward Morris and John Bertin

(Illustration by Paul)

The catastrophe was witnessed by no outer observers. Stars looked with cosmic indifference as the bulks came together, crashed and went spinning apart.

REBELLION ON VENUS

Based on the $10.00 Prize winning plot of the Interplanetary Plot Contest, won by Edward Morris, 3914 W. Monroe St., Chicago, Ill.

MIDNIGHT was nearing. Long grates of metal upon metal sounded in the bowels of the giant craft. It was hung on high runways over New York bay. All outside apertures were closing flush with the streamlined hull. Out of the thick rail of the jut deck there pushed a double screen of clarsteel, the latest sensation of applied physical science, a metal as transparent as glass. The sheets went up to lock into slots at top of the ship. Dovetailed sections were fastened in bow and stern, and soon the *Meteor*, crack interplanetary liner of the Venusian Radium Company, was a locked-in world.

It was a momentous occasion. The holds of the great liner were full of armored cars. Soldiers, in varied uniforms of the nations of the Western League, strolled in groups through the salons. The jut deck was crowded with them. Keeping aloof from the main body of soldiery were maroon-clad Company men. In and out of the entrance to the control room, on the lower deck, passed blue uniformed engineers. Forty feet to one side two soldiers in khaki stood guard by a closed door.

One deck above, Captain Bell, stocky, heavy set, sat in his cabin, a black phone receiver at his ear, his right elbow on the surface of a table. There was a strange expression on the captain's face. "Couldn't we delay?" he spoke into the transmitter on the table.

The reply was conclusive. Slowly the Captain put down the phone. Heavily he arose, and passed from his cabin into the charting rooms. His orders came in a dull voice.

"All persons into the starting couches—" that order went through the ship, called into every quarter by amplifiers.

Down on the lower deck, at rear of the ship, a girl opened the door of her cabin, ran out a few yards along the corridor, and entered the room of Albert Harrington. At the moment of her entrance the physicist was standing on a chair, examining a metallic knob set in the ceiling of his room.

"Sheila," he said gravely, as he stepped down. "Please reconsider your decision to come along."

The girl shook her head. "It's too late now, dad. Besides, what would I do alone in Chicago?" She smiled. "Still worried about that rumored meteor swarm? Don't you think the officials in charge of departure know whether there is danger? They wouldn't give orders to take off!"

Harrington shook his head. The famous physicist was a rangy man, with slightly bowed shoulders, but carrying his age well. A daub of greyish mustache adorned his upper lip. He put his arm around his daughter. "Child," he said. "There are some things you don't know. Because of them I didn't want you to come."

"What is it, father?" she asked swiftly, and now her face was serious. "Why didn't you tell me? For years now, something has changed you, something has been on your mind." She came closer to him. "Why did you accept this offer of work for the Venusian Company, dad?"

"It is an honor," he answered evasively. "The Company is the greatest corporate power ever built by man—it has a planet at its disposal."

"You hate it," she said swiftly. "I know it."

"Sheila," replied her father, "the Company is soulless. Its power is unlimited." He motioned his daughter toward a divan at one end of the room. "We'd better sit. There goes the first bell."

That deeply-cushioned divan was the take-off apparatus, with oil chambers at its back. Fronting this, on one wall of Harrington's room, was hung a periscopic screen, showing the whole outside of the ship from the top. Small aircraft were skimming over and ahead of the waiting

EDWARD MORRIS
who furnished the plot

JOHN BERTIN
who wrote the story

MANY people are today frightened at the growth of large corporations and the grip that they have upon the necessities of life, and often—upon our governing bodies. Dreamers look out to the apparently uninhabited Mars or Venus and visualize on those virgin worlds places for Utopian communities freed from the evils of earthly civilization.

But even H. G. Wells was not fooled by that prospect of paradise. In his "First Men in the Moon" his explorer refuses to let the people of earth know of the lunar civilization. "Shall we let the moon become a battleground as the earth has? . . . No, let them wait a thousand years . . ."

Mr. Bertin in this story deals realistically with what may happen when men open up new worlds. His picture is not optimistic, but it is stirring, it is brave and from first to last it is intensely exciting.

space giant.

The physicist and his daughter sat in the divan and waited. The girl held on to her father's arm. "I'm frightened," she admitted. "But I wouldn't have missed this for the world."

Time passed slowly. "Dad," the girl said. "Have you any reason to fear the Company? Do you regret accepting Allen's offer?"

Lines of worry deepened in Harrington's face. "Sheila," he said suddenly. "I'm going to ask for delay—to put you off!"

A bell tolled solemn warning. "It's too late now, dad," the girl whispered. The fear died out of her eyes. "They wouldn't dare hurt Albert Harrington," she said proudly. "Whatever the trouble between you and the Allens, they can't use high-handed methods."

A long hoarse whistle vibrated the structure of the ship. It was answered by a great chorus of lesser toots. Accompanying the sound, on the periscopic screen could be seen the scudding of small aircraft from the path of the giant liner. Again the bell tolled, and on the top border of the screen appeared a word. "Ready—"

There was a swift jolt which threw them back. They felt the pressure of the cushioned seat. It grew. For a few moments the girl's vision blurred—she felt crushed. It was impossible to move. Gradually the weight lifted from them—she saw again. The periscopic screen showed nothing but wisps of vapor, growing, whipping past—a blackness beneath. "Well!" muttered Harrington, a strange look of regret in his eyes. "We're off!"

CAPTAIN Bell explained, some hours later, when the Harringtons had joined the group around him. Richard Allen, a well groomed, dark young man, with eyes too close together, had greeted them with a bow. Allen was the son of the most powerful individual in two worlds —Director Allen of the Venusian Company. It was young Allen himself who had secured Harrington's services for the Central Laboratory on Venus. He stood regarding father and daughter, a slight smile on his face. The girl felt uncomfortable.

"At times the pressure is worse, mostly it is far less," the Captain was saying. "Ships of the *Meteor* type can take off as slowly and smoothly as one of the intercontinental airliners," he went on, "but there is the mechanics of a proper directional start off the whirling earth to be considered."

A company of officers and technicians was gathered around him on the upper jut deck, which owing to the narrowing prow of the ship was here some ten feet wide. Outside and down beyond the clarsteel screens was total darkness, above them was a black sky heavy splashed with stars. There was no question of sleeping that night.

"We are still moving in the shadow of the earth, that great cone which reaches into space beyond the moon's orbit. In a few hours, below us as well as above, stars will shine. Then the sun. A wonderful sight. Worth a lifetime of ordinary experience." And Sheila, listening, gazing with wide eyes into that vast blackness, believed.

"What speed can you attain, Captain?" asked Harrington.

"Well, thanks to your own principle of thorium disintegration, this particular liner can reach close, very close to one hundred thousand miles an hour. That is, of course, the maximum, and attainable only when well beyond the full attraction of the earth. We are not going one twentieth of that now, though constantly and smoothly accelerating. There's atmospheric friction to be considered, you know."

"Mr. Harrington," asked one of the technicians, Sanders, an earnest-faced man with thinning hair. "Is it true that the principle of rapid disintegration, the new generation of power which you have made possible in thorium, holds the clue to full disruption of the atomic nucleus?"

So the conversation took a turn, and the girl at the covered rail listened to opinions, sometimes heated, concerning the nature of matter and force. Daughter of a world-famous experimenter, she had a strong interest in the subjects, and surprising knowledge for a young and formally educated girl. Still her usual emotions were warped by uneasiness. She found herself suddenly listening to tones rather than words. Richard Allen had intruded into the conversation. Was there a sneer in his voice? What had gone wrong between him and her father?

"The facilities of the Central Laboratory on Venus are unparalleled, Mr. Harrington. If you can conquer the atom anywhere, it will be there. Why not conclude your experiments? Practically unlimited voltage is at your disposal. Oh, come now!" he laughed. "Of course I know. We all know what the great Harrington is doing—in scientific matters." The girl heard the sneer plainly now. She turned to watch Allen's face.

Later, in the privacy of his cabin, Harrington felt constrained to reveal a secret to his daughter.

"I've sympathized with the rebels, dear. The earthly humane societies interested in the case of the prisoners we have aboard, the Bradfords, were started by me. You were at school, in California, at the time." He seemed to hesitate, as if deliberating whether to say more. "You see, the Company might—"

"Oh, no, dad!" she dismissed it relieved. "What can they do? Perhaps they are resentful—that is all. Come—let us go on deck again."

No person slept the first night on that ship, cleaving a way into outer space. In the course of the next few hours Harrington and his party visited all parts of the liner. Finally, coming up with the group from the holds of the giant vessel, the girl noticed the guarded door on the middle deck.

"Is that where the Bradfords are confined?" she asked, aware of her father's change of expression. Richard Allen smiled.

"Yes," he said. "The two chief rebels against Venusian law and order. The Company should have executed them at once, but due to some strange sentiment, some undercurrent of propaganda on earth, we thought it best to let them be tried by the League." He looked at Harrington. "They can be seen through the floor of the charting rooms above. A clarsteel screen. Do you care to see them, Mr. Harrington?"

"Certainly," said Harrington cooly.

TEN minutes later the group stood looking down through a square opening in the charting room floor at two men. The room below them was a mere hole. One of the two men was seated on a bench, his head in his hands. "That's old Franklin Bradford," informed Allen needlessly. The girl recognized both. She had seen them on television screens. The younger man, Larry Bradford, was erect, pacing. He looked up at sounds above him. His eyes, thought Sheila, were like those of some splendid animal at bay.

"And that's the young one," sneered Allen. He reached over to a chasting desk, touched a button, and an opaque slide of wood went in place over the clarsteel.

Allen watched Sheila's face. "Don't waste sympathy on them," he said after a moment. "It's because of them that thousands of people on Venus have been killed, and thou-

sands of others will have to be hunted out of the jungles by the soldiers of the League." He looked at Harrington "Don't you think they should have been executed at once, at the first uprising three years ago, Mr. Harrington?"

There was an awkward silence. Some of the group drifted off sensing the strain between the two men.

"They made quite a case," replied Harrington shortly. "After all, old Bradford pioneered on Venus—his people started the mines." He controlled himself. "You should arbitrate, I think," he finished.

Allen laughed unpleasantly.

"You're not patriotic, Harrington," he said. "The Company is chartered by the League. Attacks upon its soldiers are tantamount to attack on the chartering federation of the Western Powers. These people are rebellious dogs, and will be treated as such."

He turned. Captain Bell and Colonel Perry, commander of the League troops, had approached, and were silently listening. Allen saw something like cold disapproval in Perry's eyes. He smiled again.

"Enough of rebels," he said easily. "Come, let us go back on the jut deck. The sun will be appearing any moment now."

They never forgot the sight. The earth stood out, a huge ball hung in space, a slowly twisting ball. Ellen gazed with her very soul. One semi-circular section of that great globe was tinged with misty fire, and up above this fringe of atmosphere the sun's disk protruded. They could not look at it save through special glasses procured by the Captain.

Harrington stood very straight, and there was a strange light in his face as he gazed toward the receding earth. He turned once, to see Richard Allen regarding him with a slight smile.

"Every hour that world will grow smaller, Harrington," the younger man said. "Words can't describe what I mean. You'll know, when you see it the size of a beach push ball, then of a barrel end, then a moon with a strange face. You'll know it emphatically when it will be a star lost among the others in the sky." His smile widened.

Harrington looked steadily at him. From the moment they had met, that curious double meaning had sounded in Allen's words. What did he know? Had the Company's offer to him, Harrington, been a subterfuge to get him to Venus and Venusian courts? The physicist dismissed the thought. It could not be.

A month, it would take them to make the trip. Harrington, putting off his doubts, ascertained Sheila would remain in company of the technicians, and set out to investigate the mood of the soldiery on board. He found most of them silent, morose. Fighting men of undoubted courage, the pick of the armies of the United States, England, France and Italy and Central Europe, this first detachment of the League's punitive expedition against the Venusian rebels. Inured to war with all the lethal horror of the latest weapons. But they had no love for their mission. And there was the earth, a ball in the sky, receding. Some of them cursed, and talked about the meteor swarm, which by indications was more than a rumor. A glow had appeared in the sky to starboard.

Day by day the earth grew smaller. The meteor swarm became a certainty. The captain gave out various statements which failed to quiet a growing alarm. At first the moon had swelled, so that for a time it rivalled its primary in size, but after the third day both orbs shrank back, lost their breath-taking beauty, became golden globes retreating into the vastness behind them. Colored screens now covered the bow of the great space liner, to cut off too great a glare. For the *Meteor*, turning in its arc, the result of the earth fling spin at take off, was beginning to straighten its course, shooting like a vast, grey bullet toward the eye of the sun.

CHAPTER II

Enmity

"NONSENSE!" laughed Harrington on the seventh day out. "The Company have some designs on me? Why does that idea persist in your mind?" Sheila knew that her father was hiding his real thoughts. Harrington had aged in the last seven days.

"Did you ask again to talk to the Bradfords today, dad?" she inquired. They were seated in Harrington's room. The periscopic screen on the wall in front of both showed a black vastness sprinkled with stars—a glow of light on its upper extremity marked the place of the sun.

"Who told you," asked Harrington abruptly.

"Allen. He said it was with regret that Company orders forbade any intercourse of any kind with men connected with the uprising on Venus. The penalty, he said, was death. Dad—what did he mean by that?"

"Nothing," replied Harrington, his eyes lifting to the ceiling, where the metallic knob of an oxygen distributor showed in its niche. "Nothing, child."

The girl was troubled. She left her chair and went to her father. "I know it's foolish, dad. But the feeling persists, of being trapped, of being at the mercy of people hostile to us. The earth, your position—our security—it all seems a dream."

"Come, Sheila," her father said abruptly, rising. "Let us go on deck. Venus is growing to a perceptible disk."

"Dad," she said slowly. "I'm afraid—of Allen. Last night he tried to make love to me. I know this sounds old-fashioned," she continued. "But I'm afraid of him. He's—cruel."

Harrington stiffened. He stared over his daughter's head. "Wait for me outside," he finally said, and after she had gone, proceded to the small metallic dresser which occupied one corner of the room. Rummaging within a drawer he drew out an automatic pistol. It was a small thing, but carried a clip of twenty cartridges. It would kill Richard Allen. As he pocketed the weapon Harrington thought, for one flashing moment, of how completely seven days could change all motives and circumstances.

Two weeks out. The earth was a golden baseball in the sky, and five inches to one side, a disk of one-fourth its diameter, and duller of glow, marked the position of the moon. The blinding glare sunward had grown. Just outside the intense aura Venus hung, the size of the earth, glowing with whitish brilliance.

The rail of the *Meteor* was always crowded with watchers. There was little of the chatter of earthly voyages. Harrington kept studying the soldiers of the League. The commander, Colonel Perry, was an Englishman. He was a taciturn man, speaking little at the dinner assemblies in the lounge room. They were attended by the officers of the ship and expedition; the scientific men, two of whom had their wives along, Allen, and the Harringtons.

Came the evening when a long gathering tension between Harrington and Allen broke into tangible hostility. Conversation had started with the question of the meteor swarm, as usual, and Captain Bell reassured the company that the speed of the ship was taking it out of all danger. The matter of interplanetary speed swung the talk back to the history of space travel. Allen listened, that ever-present sneering smile on his lips. From time to time he drank.

Fifty years before, a rocket had struck the moon, and

the telltale flash was the greatest stimulus to invention ever experienced by man. A decade after that the first ships had headed for Venus.

"It took a tremendous amount of courage to cross in those days," said Harrington. "Consider the leaking clumsy monsters, heading out on a hit-or-miss venture."

"Your principle of thorium disintegration changed all that," remarked Captain Bell. "You were quite a young man at the time of that discovery, were you not, Mr. Harrington?"

"Not yet forty," replied Harrington. "It was in 1980."

Sheila asked. "Wasn't Franklin Bradford on the first ship that made the passage?"

"Yes," said Allen at once. Silence fell upon the table. "And in command was Capt. Montaigne, father of the Montaigne brothers, awaiting execution on Venus." He drank from a wine glass. "A sad ending for heroes. Consider their subsequent history. The planet Venus, a treasure house of unparalleled wealth and power, they wanted to have for a home. They wanted to keep old-fashioned ways of government, architecture, mining. From the day the Company was formed, they began to fight it." He drank again, and began to talk with more animation.

Harrington sat very still. His mind traced out every distortion of truth in the other's recital of the rebellion of the miners on Venus. The Company had taken root in a happy land beginning to enjoy the fruit of pioneering toil. It had crept, like a many-armed Nemesis, into control of mines, transportation, politics. When the permanent settlers on Venus woke to their danger, it was too late. All this Harrington knew. The last decade had been one of blood and terror, of a growing oppression unparalleled for its unbending cruelty. Dispossessed, exploited, scorned, the makers of Venusia had become virtually slaves in the radium pits, ground in the wheels of a remorseless commercial machine. They had become, at last, fugitives in the hills and in the galleries of abandoned mines.

The physicist sensed a purpose in the other's protracted distortion of truth. It seemed as if Allen was deliberately trying to betray him into some remark.

"And now I hear," concluded Allen, "that another uprising is starting in Venusia." He gazed directly at Harrington.

"Really?" asked Harrington, his tone icy. Sheila was very quiet. The two women to her right, hiding their anxiety, strove to change the conversation, with poor success. Feminine small talk was entirely out of place. For days that enmity between the scientist and Allen had grown. Captain Bell's face was flushed.

ONE of the technical men, Briggs, husband of the woman next to Sheila, remarked.

"I should think the poor devils would realize the way matters stand." He flashed a glance to Allen. "Emergency times are emergency times, that's all."

Allen smiled. Harrington felt a cold desire to kill rise in him. Director Allen's son was cruel as a snake. The sense of power, of the absolute ownership of a world, had made the heads of the Company inhuman. Clearly Harrington had come to realize the fact.

Allen drank again from the wine glass. He had been drinking beyond the limits of balance, as was evidenced by the unnatural brightness of his eyes.

"How long will it take you, Harrington, to reorganize methods of research in the Central Laboratory?" he asked.

"I don't know," replied the physicist. "I must be on the ground to give an estimate."

"You will, of course, use the facilities of the laboratory for your atomic work?" asked the other, harping on a theme he had persisted in before. "You have practically struck the method now—a few days, and presto—man's dream of unlimited power is realized."

Harrington laid down his fork. "No, sir," he said quite distinctly. "I intend to do little experimental work on Venus. I am quite satisfied with the facilities of Chicago Tech."

Allen smiled, showing white teeth.

"I have heard, Harrington, that if other scientific men could be given the data already established by you, they could bring the matter to conclusion." He leaned over the table. "Is that so?"

The glances of the two men locked. "Perhaps," said Harrington slowly. "Why do you ask?"

Allen shrugged. "Curiosity," he replied, glancing about the table. He drank again, and looked at Sheila. "Idle curiosity. By the way," he went on, amid a strained silence. "Were you in New York for the whole Bradford trial?" He sneered at Harrington's reply. "Judging by the stir created—"

"Sir!" snapped the physicist. "I don't like your tone." He rose. "You'll pardon me," he said stiffly. "But I think I'll leave the table." Sheila rose, and followed her father. They heard Allen laugh. The others sat in stony silence.

The *Meteor* shot on through space, a great, grey projectile trailing spiral plumes of smoke. Harrington and his daughter, on the jut deck, stared out into the chasm of emptiness. The physicist reached into the side pocket of his coat, and felt the butt of an automatic revolver. There was a glint, as of ice, in his eyes.

An hour later, a blue-uniformed officer found Harrington passing along the corridor on the middle deck toward his room.

"Have you seen young Allen?" he asked.

Harrington stopped. "No," he replied. Then asked—"What is the matter?"

The officer evaded his glance. "Radio pictures coming in from Venus. Director Allen talking. Do you care to come into the charting room, Mr. Harrington?"

"No!" replied the physicist curtly. As the other turned away, he added. "If you pass my daughter on deck tell her I'll be up shortly." He went to the door of his room, entering without a backward glance.

The officer, shaking his head, went on in search for Allen.

Allen had risen from the dinner table shortly after the Harringtons, and made a way to his room at the stern of the ship, on the middle deck. Here he mixed himself an iced amber drink that increased the fizz in his mind. His smile fixed, he left his room, wandered about ship for a while, drawing curious glances, and not a few scowls from the veterans who sat in groups everywhere, disgruntled at the orders against smoking, and talking of the growing meteor swarm racing the ship toward the sun.

Finally an idea came to Allen. He went down a flight of stairs, and on the lower deck, headed toward the control room. Before reaching it he veered left, and stopping at the door of a guarded chamber, gave out orders. He was admitted.

Five minutes later the guards whistled a shrill blast for help, and plunged into the small cubby hole which held the Bradfords. They had heard Allen yell, a cry choked in his throat. Within the cramped space the two guards fought a swift battle to save the life of the son of the Company's director. A push from a rifle butt threw old Franklin Bradford against the further wall. Finger on trigger, the soldier threatened the old pioneer. But the order of

things did not hold, for the other guard, the swing of his clubbed weapon not fairly striking young Bradford, found his hands full. The Venusian was like a tiger. Richard Allen, his senses reeling, almost choked to death, crawled toward the door. A half dozen soldiers broke through the narrow entrance, and overpowered young Bradford.

A bit later, outside the room, Sergeant Patrick O'Reilly gave orders. His hard face was grim. "All right, boys. Company men are going to guard the prisoners from now on."

Two men in blue uniforms looked out from the door of the control room. From behind them peeped a white-clad mechanic. Soldiers in various uniforms of America and Europe who had come to the scene of disturbance began to talk in various languages. Sergeant O'Reilly nodded his head to a remark from one of the dismissed guards.

"I think he was baiting' em, sir."

"It would be like him," muttered O'Reilly. His eyes were cold as he looked toward the blue-clad control room men. "These Company people—" he said, and shook his head, then, frowning, he ordered—"Remember, when the Company men come to take your places, don't start trouble! We want no trouble till we hit Venus—or something else!" he finished with a grunt, thinking of the meteor swarm. Passing among the men, he heard various remarks. "None of that!" he ordered once, cryptically, to an American more loudspoken than the majority. "Remember, we're on duty—and the Company is the one we're backing, not the rebels." But there was little sincerity in his tone.

UP on the middle deck, Allen touching his throat, walked aft toward the larger cabins. Crossing the center salon, he met a blue-uniformed man, coming from the direction of the charting room.

"You're wanted, sir," he was informed. "The televisor is showing pictures of another uprising of the rebels on Venus."

"To the devil with the rebels," replied Allen truculently. "Shoot 'em down, I say!"

"They are in earnest, sir," replied the officer, and briefly related the gist of the latest television dispatches. "Your father is still on the screen, I believe."

"I'll see plenty of him, later," observed Allen. He touched his throat. "How about the meteor swarm, Morrison? False alarm?"

"No, sir," replied Morrison, soberly. "It's growing sir. But Captain Bell believes we'll pass well ahead of it." He looked curiously at Allen as the Company director's son turned away, a bit unsteadily.

In the narrow corridor beyond the third salon, Allen paused, by the door of the Harrington room.s A faint sneer touched his lips. He went along the corridor to his own chamber, and drank more of the iced, amber liquor. Then, sinking into the softness of the divan, he slept fitfully, his brain moiling slowly.

The dreams that passed through his drunken brain were visions of a great city, with concrete buildings that made narrow alleys of the streets. Armored cars cruised a broad boulevard at one end. The entrances of mines pockmarked the hills beyond this avenue. Here, from time to time, rebel miners would make a sortie, and in Allen's dream the armored cars played a grim part. He smiled. Product of an education which had ruled out all sentiment, the son of the most powerful man in two worlds felt pleasure in those dream visions of destruction.

He was awakened by slight, metallic taps which seemed to come from the oxygen distributor in the ceiling center. At once his eyes widened, for he had heard those taps before.

When Allen passed the Harrington cabin once again, the sneer on his lips was plain. He went to the upper outside deck. He asked for Miss Harrington. His mind was now totally unbalanced. He pictured the girl's supple body, her full lips. He went toward the extreme bow of the ship. She might be in the lookout chamber, a sort of enclosed poop reached by a circular stairway from the outer deck.

She was. Allen dismissed the man on duty. He repeated the order with a snap when the man hesitated. Then blocked the girl's way as she made for the stairway that led down to the deck.

"Don't worry, girlie," he said. "I won't try to kiss you." He pushed her back.

Sensing his condition, the girl tensed. "Please, Mr. Allen—"

"Listen," said Allen. "Hear that?"

Little metallic ticks came from the oxygen regulator in the roofing above them. They ceased.

"You know what that was?" asked Allen with mock gravity. "Why—that was Albert Harrington, the great physicist, the honored Albert Harrington, communicating with convicted criminals!

"Yes!" he snapped, gripping her shoulders. "From the third day out. And I've got witnesses. More than that—we have proof that your father engineered, that he helped to start, the first great revolt on Venus. The Bradfords have been in radio communication, in some wavelength out of the reach of ordinary receivers, with your father's private laboratory in Chicago for years. We have the proofs!" He shook her. "Your father will never leave Venusia!"

The girl was rigid. The metallic knocking was not repeated.

"Then the Company's offer to my father was a trap?"

Allen laughed. "You're brighter than your father, girl."

"You can't hurt my father!" she said swiftly. "Not Albert Harrington!"

"We've got a stranglehold on the League—the Company is the greatest power on two worlds!" he proclaimed proudly.

She played for time. He was in the mood to disclose anything. But after an interval that mood changed. He pulled her closer to him. "You could be of help to your father, now. Be good to me." Her resistance infuriated him. He struck her, all sense of proportion gone from his drink-crazed mind. She tried to twist away, but he overpowered her, and now desire for her was like a dark tide in his blood. Neither noticed a man's form, ascending a circular stairs, stepping into the room.

But down on the deck, a maroon-clad Company guard heard an automatic crack, once, twice. He whistled shrilly. Men came running.

The *Meteor* shot on through space, sunward, ever sunward. To one side of the giant liner, the diffused glow of the asteroid swarm was brighter. But the great panorama outside was forgotten. For Albert Harrington had shot and wounded Director Allen's son. Harrington, a prisoner, was being led down from the lookout poop.

CHAPTER III

Disaster

THEN the spirit of sullenness, that from the start had marked the soldiery of the League, began to brew like a ferment. A day passed. Two. A week. Venus

was growing visibly in the sky. Colonel Perry felt his power to discipline his men slipping. He remonstrated with Captain Bell. Harrington could not escape—he could not jump into space. Why not give him the freedom of the ship?

"My men," he stated flatly, in the Captain's cabin, "have their sympathies with Harrington. I don't know why, but the idea's passed among 'em that the rebels on Venus are justified. Too many Americans," he added. "They hate the Company squad. I warn you, Captain Bell. If you don't release Harrington, there may be trouble—trouble I can't control. The rumor is going around that Harrington is with the Bradfords in a room too small for them—that they are dying of insufficient oxygen down in the hold.

Captain Bell's face was haggard.

"There's nothing I can do, sir. We've got orders direct from the Executive Council in Venus. However, I can disprove the suffocation rumor. Harrington is with Franklin Bradford, they are in a room down in the rear hold, as large as this one. Young Bradford's alone in the brig. Look," he said, and pressed a button in his desk, revealing the transparent trap window in the floor. Perry looked. He nodded.

"I'll see the girl, and set her mind at rest about that, anyway." He watched Bell's haggard face. "How about those meteors, Captain? That's another thing that's bothering my men. They're convinced that this ship was ordered out with criminal carelessness."

Captain Bell swallowed. He led Perry through the door which connected his cabin with the charting rooms. Here blue uniformed men were working at desks. One was tuning in the televisor screen. Another was talking to the control room. The Captain pointed to the screen. "See? It's been a close race, but we're making it. I didn't want to drop behind—afraid of small stragglers. The ship is now—" he stopped. The Colonel turned his attention away from the screen, and stiffened. A veteran of many campaigns, he recognized the look on Captain's Bell's face. It was the look of a man facing death.

"My God, man!" Perry said thickly, shaking the officer. "What's wrong?"

"Look!" muttered the Captain, his eyes fixed on the screen. Perry whirled. He saw it then, forming out of the vague obscurity of space, a hurtling mass of rock the size of an apartment house.

"God!" he choked.

An alarm clanged wildly in the salon outside. Captain Bell jerked into action, abruptly. He sprang to the phone board, yelled orders to the control room. On the screen, a shaft of light from the *Meteor's* bow projector had stabbed out. It revealed the monster scudding stone that was bearing down upon them. The bell in the main salon was sounding its incessant alarm.

Then the *Meteor* veered. It was a desperate maneuver made in a moment of frantic comprehension, as the control room obeyed Captain Bell's yelled orders. The sudden snap of the turn made by giving full blast to the opposite sets of dischargers at bow and stern, almost broke the giant liner in two. Colonel Perry was thrown violently across the room, crashing into a maze of wiring to left of the phone board. The shock almost robbed him of consciousness. But his drowning senses registered another, a greater tearing crash that tumbled everything into chaos. And as his mind sank into darkness, Perry knew that the immense flying rock had struck the ship.

The catastrophe was witnessed by no outer observers. An illimitable host of stars looked with cosmic indifference at two bulks that came together at a long tangent, crashed, and went spinning along, to drift apart, the gap between them widening. Human cries, cries of terror and pain and despair, were lost in the empty, immense reaches. Out of the two traveling bodies things began to drop. Smaller segments of it detached themselves from the broken hull and drifted away. Lights flashed on and off in its interior. At bow and stern of the smashed liner jets of vapor spurted at irregular intervals, and the aimless power of the propulsive forces whirled the ship awkwardly, end over end, gradually opening the immense wound in its side.

On earth, in the reception rooms of the great city stations, operators went rigid as a repeated, broken message drummed into their earphones. The amplifiers connected, blared out a call that blanched the faces of all within hearing. In half an hour the news had flashed over the planet.

The *Meteor*, smashed and falling to pieces, was dropping toward the sun. Hundreds of passengers had been killed outright. Scores of others were jammed, helpless, in the compartments into which the ship had automatically divided itself. But there was no hope for these, for the main oxygen plant had been ripped out by the crash, and the auxiliary systems could not last over two days. The surviving operator was pinned in on the center deck, the worst position of all, and already dying from cold and air exhaustion.

From latest reports, ten of the *Meteor's* two dozen lifeboats had succeeded in dropping through the emergency door flanking the power keel. But they had little chance. The asteroid swarm was scudding into the wreckage. And so that tragic message died out, leaving silence in the receiving apparatus, leaving the earth stunned with the magnitude of the disaster.

THEN, a few days later, news was heard from Venus. The Company's official statements spoke of the landing of one lifeboat out of ten launched. No important personages were aboard.

Presence of another meteor swarm heading for the sun delayed interplanetary traffic for months. The tragedy was fading into the background of events, when a series of queer messages were picked up by the great receptors. The earth stirred.

The Company's first report to earth, of a single lifeboat surviving the disaster, had been wrong. Of the ten space shells which dropped from the *Meteor's* smashed hull, two survived the deadly sweep of the rock swarm heading toward the sun. Two of them, the first to be launched, and the last, with a considerable distance between them, veered in safety toward the planet which promised sanctuary. For the head of the meteor swarm, an almost solid aggregation of matter, passed in that space between, tearing into the eight hulls that were spreading fan-like in an effort to outrace doom.

From the small window of the last space shell its occupants saw the whole tremendous aftermath of the major catastrophe—saw the *Meteor*, its vast broken shape still distinguishable from the rock masses, sail into the second series of collisions. The whole mass, faintly ruddy in the illumination of the blinding sun, swept away toward its glare and was lost. Watching from the windows of the last life shell, Sheila Harrington's nerves gave way, and she collapsed.

With the girl in that frail boat was a curious assortment of passengers. Two maroon-clad Company guards, a blue-uniformed officer from the *Meteor's* control crew, operating the little shell, and a half dozen khaki-clad Americans. These were erect and apparently unhurt, staring out of the windows, turning to stare dully at the girl as she fainted.

There was a young man, dressed in Venusian tunic and breeches, beside Sheila, who caught her as she fell. He was young Bradford, a free man now, and no one in the boat's interior questioned his sharp orders. One of the Americans helped him place the girl on the bench which ran below the windows, parallel with the length of the boat.. Across from her, also recumbent on the side bench by the other wall lay another form. The pale features were those of Richard Allen. He was unconscious. Further toward the bow Sergeant O'Reilly was desperately trying to sit up. His face was working with pain. His left arm was queerly twisted.

Bradford fetched water from a little emergency cabinet near the bow. He passed a paper cup to O'Reilly, who drank avidly. Going back to Sheila with another, Bradford bathed her temples and throat. Gradually the effect of the shock was lifting from the other occupants, and they crowded around. O'Reilly came to his feet.

Bradford pushed Sheila's hair back from her eyes. "It'll be all right!" he reassured. "I think we're safe. There's a chance that your father and mine are aboard the first life shell, and the last glimpse we had of it, it was intact."

O'Reilly parted the group around Bradford and the girl, using one hand. "There's a good chance of it, Miss Harrington," he said hoarsely. "The cell your father and Bradford were in was close to that first ship. They'll make Venus, sure."

The girl revived. For a time her dazed mind could not comprehend reality. Scene after scene from the events of the terrible hours gone played upon the screen of her consciousness.

"Mr. Bradford!" She held to his arm. "I remember —the crash. I was talking to O'Reilly. I remember you pulling us out of the wreckage."

"The upper deck came down on you," replied Bradford, his arm supporting her. "The sergeant's arm was badly twisted. We went down into the holds."

She shuddered.

"One space shell was left on the intact side of the hull," continued Bradford. "It's release doors were jammed, and everyone had deserted it in haste to reach the others. The hospital attendants left *him* behind," indicating Allen. "While I worked at the release doors, we were joined by these soldiers, and the three Company men. We finally got the ship out by applying full power to her dischargers, and she ripped her way out through the jammed release."

DAYS passed, by the hour total of various watches. Three days. That tearing escape from the *Meteor's* side had damaged the little shell's power keel, and like a ship clawing its way around a dangerous reef, she barely managed to cross the dividing line of pull which drew them one way toward the sun, edging into the smaller suction of Venus' gravitational field. On the third day it became a fight to keep off the surface of the planet till they could make the lighted side. A losing fight.

They were in a bad way. The main shock, or the subsequent one of release from the liner, had damaged the oxygen apparatus, and by the third day the air in the boat was choking them. A little Uvalde-Doran combination receiver and transmitter, set in the control bench in the bow, might have served them if tried in the first few hours. But when thought of communication came to the dazed crew, the source of electrical power in the keel had become diluted. The ceiling lights had dimmed, and gone out. The key of the Uvalde-Doran set tapped futilely. No message came to them—it was evident no message was going out.

Sixty hours from the time of the crash, they dropped, fighting every mile of the way, into the shadow of Venus' great bulk. With every bit of power fed to the keel, they could not keep off that black surface—could not make the thin, far line of light which marked the edge of the twilight zone. It disappeared as the thick atmosphere of the planet engulfed them. Sailing blindly, the space shell failed to clear the brow of a mountain range hidden in that eternal Venusian night. The power keel scraped naked rock. The boat twisted. In a long crashing slide the shell went down a slope, sailed over an empty chasm, and landed with tearing obliqueness on some growth-choked lower slant. The power jets clicked it free, once, twice, but finally it was held snared by the thick growth.

Painfully the party crawled out, and took account of its position. O'Reilly came last, carrying parts of a radio set in his good hand. There was but one thing to do—try to make that twilight zone. Bradford gave directions.

The history of Venus is a saga of daring and toil, but its most heroic passages were matched by the march of that small company toward the light of the habitable world. They were almost dead, from lack of food and oxygen. Two of them were wounded. One was a girl. The distance they had to cover was enormous for the line of light had just been visible when the space shell had been hundreds of miles above the planet.

It was largely due to Bradford that they survived. The Venusian had a splendid vitality which served them all in the first hours. He had a knowledge of blind hunting and trapping gained in his boyhood years. A trap he set by the first stream they crossed, made of cord and a springy branch, snared them meat. Gradually they moved along. The black forest was alive with eyeless, queer creatures, mostly small, like earthly rodents. When the party recovered sufficiently to wonder, this seemed a miracle. Around the first campfire they built, Bradford explained.

"The theory on earth seems to be that one side of Venus is ice, the other desert. They forget the winds, the shift of atmosphere. Also, a tremendous proportion of the crust of Venus is metal with high content of radioactive material. Venus is heated by its own constitution." Sheila had watched his face as the man spoke, a face showing in the glow of that first fire. Sergeant O'Reilly, an admirable will keeping him cheerful, was fussing with parts of the Uvalde-Doran radio set, which he had taken from the wrecked ship. Richard Allen was propped up on branches. The soldiers were mostly silent, and sat in a group apart from the two maroon-clad Company men.

In this black world the queerly assorted party passed hours, endless hours. Days. Weeks, by the reckoning of earth. Traps were set over stepping rocks across invisible, gurgling brooks. Pits were dug in invisible trails. Bradford's instinct was their sole guarantee of direction. Came the time when matches began to run low. And the divergent natures of men, that had united in the climax of a great catastrophe, broke into conflict. Allen, the bullet wound in his shoulder healed, was the first to rebel against rules. It was a little matter, a quarrel over a portion of meat, but Bradford's curt command laid down the law. All things in the world were changed. The world was a circle of glow—or the feel of fellow creatures as they blundered on through the stygian dark. And Bradford, the strongest, was ruler of this world.

Allen rebelled again, and was backed by one of the Company guards. The law of the strongest worked, then, with grim dispatch. There was no time for niceties. Bradford's iron fist enforced his judgment. Sergeant O'Reilly's automatic pistol, jammed into the neck of the second Company man, halted the spread of hostilities. The Company men were disarmed. The Americans had no love

for them. This was largely the result of a remark by the control room man. Several days after the landing, as the party was grouped around the fire, he said moodily.

"Captain Bell didn't want to sail. He sent a protest in code to Venus a day before taking off, saying that the meteor swarm was appearing precisely in the orbit of the lost Haldane comet, and might be a collection of bodies scattered over a great area. The reply was—'We need the League soldiers here. You will take off as per schedule.' He tried again, just before sailing, talking directly to Allen himself."

Sergeant O'Reilly swore. "The Company!" he growled. "Damn the Company!" From that moment the two Company men had felt alien to the group. Allen said nothing. His rebellions were instinctive, beyond his control. Thus hate moved with that group in the gloom.

And love. It was inevitable. The girl Sheila was dependent on Bradford for the things of life, for courage to face that black and mysterious world of sounds and scents. The eternal laws which held Venus in its orbit, spilled the rain out of its thick cloud covering, and kept that strange thing, life, alive in the darkness, brought the man and woman together.

CHAPTER IV

Allen Plans

CAME the time when, seated around the fire, they heard low jars, far concussions, different from the jungle noises.

"Bombs!" said Bradford coldly. "War!" He spoke to O'Reilly. "When we reach the twilight, take Sheila in to civilization. I can't go. There's a sentence of death passed upon me. Besides, my people are being exterminated."

"No!" the woman said swiftly. "I don't belong with them. My place is with you!"

Sergeant O'Reilly spoke for the Americans.

"Listen. I want to get hold of a dynamo. I want to get a radio set going. No questioning in these fake courts for me. I stay in the jungles, and send out calls for help to the earth."

"Why?" asked Allen. "Are you mad, O'Reilly? The Company is part of the League."

"I don't think so," said O'Reilly. "I've got a hunch."

The concussions in the distance grew in number and volume. A faint sickly light began to alleviate the gloom. Allen and the two Company guards tried to escape. O'Reilly shot both guards. Allen stopped at once, and came back. One of his companions fell not twenty feet from the top of the hill which marked the starting point of that break for freedom. The other disappeared in the murky tangles of the jungle.

"You should have waited till we were asleep," said O'Reilly. "Tie him up, boys." As they were binding Allen, the sergeant remarked grimly. "Well—there goes my chance to walk into the Central Metropolis, and be greeted like a hero. That scum will carry the news. 'Sergeant Patrick O'Reilly holds Allen prisoner.'"

"I think you hit him," said Bradford quietly. "He probably ran just a little way."

But it was impossible to verify the guess in that light. The hill slope was full of ravines. They pushed on, no longer stopping to trap game. When finally they met human beings, a squad of tattered Venusian rebels on a hunt for meat, their energy was almost spent. But Sheila revived to a shock of news. Her father was alive.

On the edge of that twilight zone, as the weary party recovered physical strength, they were faced with a grim situation. Ahead of them was Venusia; was the central city of a planet-girdling nation. A nation at crisis time. The destiny of a world hung in the balance, and the members of that lost little band were the unwitting instruments of fate.

Here in the grey green light, the jungles were heavy, and wet. Into this dim land which led to the eternal darkness beyond, the rear guard of the Venusian rebels scouted for food. Here and there, piercing the heavy growth on a hillside, was the concealed entrance to some tunnel which connected with the mine borings further beneath the sun. No persecuted people in the history of earth had ever been driven to greater cunning, to more desperate measures.

Above the dimly visible jungles, from time to time after the arrival of Bradford and his party, droned squadrons of Company bombers, dropping deadly shells which ripped ground and vegetation to bits. Rumors had spread through a thousand tunnels, passed from those fighting at the mine mouths to the wounded and the sick in the jungle settlements, that Allen was preparing for some decisive move. The bombers flew more frequently over the dripping, grey green world. In the streets of the Central Metropolis, armored cars were gathering, squat black metallic monsters, carrying Sheffield heat ray projectors.

Yet something had stiffened the rebels' resistance in face of those ominous preparations. For some time messages had crackled on terminal wires of patched-up radio receivers in the tunnels at the hillsides. Originally these sets had been powerful, carefully constructed pieces of apparatus, fewer in number, located in some worked-out tunnel out of the range of Company inspection. Into these sets had been incorporated Henry Montaigne's discovery of radiant waves, differing from those known to practical science, and it was by means of these sets that the Montaigne brothers and the Bradfords had years before, first communicated with Harrington on earth, drawing courage from the great scientist's assurance that justice would in the end prevail on Venus. Warnings of suspicion, of a projected Company raid in the mines had resulted in the breakup of the big combination transmitters, and they had found their way, patched into portable sets to the outside. Now in the last hours of extremity in the final rebellion, they had picked out of the ether this repeated message—

"*Harrington—prisoner—laboratory—*"

Albert Harrington was alive, and in Venus.

THE finding of Lorry Bradford and his party seemed another miracle to the desperate outcasts in that world of half lights and shadows. The news that the son of Director Allen was in their hands ran, like a ripple of hope, along interminable miles of the strangest battlefronts in the history of the warring race of men. Bradford took charge of the forces directly back of the Central Metropolis. It was here that the whole trend of the Venusian movement for freedom centered—from this point the whole rebellion had emanated, and from this point it died down in intensity. The destiny of countless thousands of men working in that broad habitable belt which girdled the planet was dependent on that forlorn hope, that somehow the fighters in the Central District would win terms from the Company.

Sergeant Patrick O'Reilly, after being told the details of the problem, gave vent to some picturesque language. Calming, he gave orders to his squad.

"Rustle me up a dynamo. It's the earth I want. I think Allen's mad. The League'll have things to say about him holding Harrington."

Sheila spent hours near the patched Montaigne receivers.

At irregular intervals the messages came—*"Harrington—prison—laboratory—"* three words, without variation. To the distraught girl, this seemed a slim assurance of her father's safety. She sometimes went with Bradford back into the jungle, and climbed a hill which thrust its head far up into the mists of the heavy atmosphere. With distance glasses, from this point, the Central Metropolis could be fairly distinguished—its vast blocks of concrete jutting up amid the older, smaller architecture of the pre-corporation period.

"Why don't you go, Sheila?" asked Bradford more than once, when they were alone. "O'Reilly will take you. There must be some protection for you at the League headquarters in the city. Allen can't defy the League." His face was dark with doubt as he held her supple figure in his arms. "You can't stay here. It's pure luck that those bombers haven't hit the camp behind the Central mine. Oswald's outfit, the camp to right of us, where we've left Allen, was almost wiped out in the last bombardment."

"But you, Lorry?" she asked. "Can't you see—you've been everything to me. But for you, I would be dead—all of us would be. Those first days in the dark—" she shuddered.

"I can't go, Sheila," the man said decisively. "I have to die here, with those of my people who will not surrender. And many of them won't," he added. "For the leaders, surrender means death in any case. For the others, it means the mine pits again—it means cancer, the slow warping of tissues, the deadly poisoning of excess radium emanation absorbed by the human body.

"Yet this can't go on," he added, and now indecision was in his voice. "Some great drive is under way—to judge by the Company's preparations. We can't hold out much longer. And you, Sheila, you have to think of yourself—of your father. This has been an accident, our meeting, our love—a thing of the dark, of blindness—"

The girl-woman wept. Far in the distance sounded the raucous drones of the Company bombers, sweeping anew over the jungles.

Then the blow came. The news of it ran to the several encampments in the Central District. In the entrances of the hidden tunnels the Venusians gathered, listening to the dull booms which confirmed the story. Sergeant O'Reilly said grimly.

"I'm telling you Allen's gone mad. From what we know there's no new detachment of League soldiers in the city, and perhaps the Nations have backed out of the agreement of New York. Perhaps they told Allen to do as he liked. But I don't believe it. It's too inhuman!"

"But *why*—why should he break in the mine mouths?" asked Sheila. "Isn't the Company's strength based on radium output? Won't it take years to dig galleries again, to make anew the systems of ventilation they are destroying?"

"It means," said Bradford stonily. "That Allen is going to conclude this drawn-out affair. He must have the backing of the League, or at least be assured that nothing more than a protest will be filed. The Company practically controls earthly politics anyway," he added. "Well, it's the end."

"What do you mean?" asked O'Reilly. The miners were all around them, their wan faces showing deepest dejection. Armed with weapons handed down from pioneers who had used them to hunt small game, their one great quality had been tenacity. Bradford looked around him and abandoned the cause his father had led.

He pointed toward the darkness.

"See? Smoke. The bombers have set fire to that peculiar vegetation. Besides the capacity of existing without sunlight, that growth can burn like tinder. There goes the end of our food supply. All life will leave this section. The bombers will shell every inch of the twilight area back of the mines. Inside, with the closing of the openings, with the cessation of ventilation, gas will form, radium gas, and the usual mining damps. It means extermination, nothing less." Turning to the sergeant, he asked evenly. "O'Reilly—is that transmitter ready?"

"Yes, sir," said O'Reilly with military snap. "I was intending to try it now, when this hullabaloo came up. I want to tell the earth that Harrington is a prisoner, and other things."

"Later," decided Bradford. "First—contact with the Central Metropolis. Tell the Executive Council that you, Patrick O'Reilly, sergeant in the American division of the Expeditionary Order Force, are alive, that you know I, Bradford, have Richard Allen here, and want to talk terms with his father."

O'REILLY carried out orders. Four hours later, the answer came. Bradford received it without flinching. For one moment a suspicion crossed his mind, and while preparing to give reply, he stiffened.

"No," he decided. "He wouldn't dare. This is open—in view of all men. Very well!" he added. "Signal Allen that I accept the terms. I'll have every man in the Central District out and into the open. Four of us, O'Reilly, myself, Oswald, and Armitage, will see Allen personally in the Executive Buildings."

Sheila, and a reserve group holding Allen were to stay behind. For the others, the word went along, into the maze of mining galleries which honeycombed the hills nightward of the Central Metropolis. Through these gloomy passages fleeing men had been streaming, gathering here and there where a lamp illuminated an old work pit, talking excitedly till the orders came. Being orders direct from Bradford, the motley crowd obeyed, though with much questioning among themselves. Those farthest in the mines stopped in their retreat, and under selected leaders, moved again toward the front. A year's long struggle was over. The explosions at the mine mouths had ceased.

The forces in the hills mobilized sadly and prepared for a march of submission around the rises, and down to Allen Lake. The raucous droning of the bombing planes died out in the sky.

Director William Allen, had called a sitting of the Venusian Executive Council. He faced the members now, in Company Chamber, an immense, artificially-lighted room. Semicircular rows of seats, in the fashion of earthly assemblies, fronted a large central desk, and from behind this Allen delivered his opinions and orders.

He was a short man, but powerfully built, and as he leaned forward to occasionally strike the desk in emphasis of his words, the flesh of his thick neck swelled in the open collaring of a rich Venusian tunic.

The faces of the assembled Councillors were strained. One of them finally asked for the floor. "Director," he said, and little drops of perspiration stood out on his forehead—"this is a big thing—a big thing. Certainly we can do this to the rebels. We can kill them all, or ship them back to earth. But League headquarters know, by now—" he swallowed. "They know we've got Harrington!"

"Precisely why I want you all to take this decision with me!" snapped Allen. "That set by which the rebels communicated with us, has since been dispatching direct to earth. As for League headquarters here," he waved a

hand. "I'll fix that. The main thing is that the earth knows. Questions will begin to pour in—sharp questions. Do you know what I'm going to do?" His greenish eyes glittered. "I'm going to cut connections!"

Mutters rose. It was a great decision, perhaps a gage of war flung to the parent planet of the race of men. Allen stood erect behind his desk, his square jaw outthrust. There was no softness in the man, no trace of the ordinary human sentimentalities. He had built up a system of control and exploitation that was now a gigantic power, and a disaster in space had put a master card into his hands.

A Councillor asked for audience. "Are you *sure*, Director?" The question was earnest. "There is no possibility that Harrington has hoodwinked us?"

Allen smiled. About to make a reply, he was interrupted by the buzzing of a desk phone set. He threw the lever, listened, and answered shortly. "Very well. Send him in." He paused a moment. "Is Johnson still there? Admit him also."

A maroon-clad orderly entered through noiseless sliding doors set in the wall to left of Allen. He was followed by Johnson, one of the scientists of the Central Laboratory. The orderly reported.

"The rebels are coming around the hills, sir. The four leaders are already under guard at the Square."

"Everything arranged as I ordered?" asked Allen sharply.

"Yes, sir. The bombers have flown into the darkness, with directions to cruise within thirty minutes flying time of the Metropolis. Jeems has his trucks on the lakefront, in the Square, and at the city end of Radium Thruway. The miners will be entirely bottled up, sir."

"Good!" said Allen, and dismissed the man. The scientist, Johnson, approached and spoke hurriedly. A frown grew on Allen's face, then slowly cleared. He rapped for attention.

"The mystery of how the rebels knew about Harrington is explained. He communicated with them. Tell the Council how, Johnson.",

"It was through the power of that helium-cooled electromagnet which he uses for the atomic work, we believe. Baker has just found clamps which seem to have no purpose save to hold terminals. We had missed a Uvalde power coil some time back. Harrington hid it in a dry cell casing. Baker is at work on the matter now, gentlemen. We believe that Harrington's method of transmission is based on the sub-etheric phenomena lately investigated by De Solgie. A powerful magnetic field will distort a voltage spark. Harrington and Montaigne, the rebel, have constructed devices which are bridges between the sub-ether and the ordinary wavelengths—"

CHAPTER V

Harrington Wins

ALLEN interrupted. "Well the thing is done. Everybody knows that Albert Harrington did not die in the *Meteor* disaster. The principle of communication we have referred to is unimportant. What is important is the fact of Harrington's atomic work. Because of that, gentlemen, the Venusian Radium Company in the future will be responsible to no power, national, international, or planetary!" His head lifted. "I will answer your question, Councillor Littman, concerning Harrington. No—he has not hoodwinked us.

"In a few hours the secret will be out—atomic power, gentlemen, will be in the hands of mankind. Harrington did try to trick us, at first. He played for time. He has always been hostile to the Company, and to place this great knowledge at its disposal, while facing the probability that he would be executed immediately after, went against the grain." Allen laughed.

"Johnson, here, has told me that he spent hours plotting out pulses of energy, doing over again the mathematical work he had done in the Chicago laboratories, but we soon convinced him that our physicists here were not amateurs. A little pressure brought to bear—we threatened to dispose of old Bradford, Bradford, that thorn in the flank of the Company. Harrington made a bargain with us. In exchange for his own life and Bradford's, he would unlock the secret of the ages." Allen turned to Johnson. "How soon do you think it will be?"

"I think it has happened, sir," replied Johnson, his voice strained. "That's why I requested an audience."

"Speak louder," ordered Allen.

"Well—" Johnson cleared his throat as he faced the most dreaded group of men on the planet. "He's been coming to it for some time. Radium has formed the basis of his experiments, as thorium was used in the famous tests of 1980. This disintegration principle he used now to produce a terrific heat, concentrated in a disruption box through which played the force fields of the great helium-cooled magnet, and across which he threw increasing voltages, in the last few days the potential was as high as twenty millions. He insisted however, on privacy, and we could not check up on everything. We did know however, that in an elaborate condensation apparatus, of clarsteel coils, the original radium was beginning to appear as lurid jets of gas, the queerest things I've ever looked at.

"They seemed writhing, alive, of two separate colors, green and red. Each coloring, as far as we could judge from the peephole provided, travelled a separate path. When Harrington was out of the laboratory, he removed sections of the clarsteel, but still it was patent that there were two channels for those queer glowing residues of the disembodied matter which issued from the disruption box."

Johnson cleared his throat. "We had orders to leave him alone. But a few hours ago, as Baker and I were talking in the main room of the laboratory, the explosion came. It was like nothing I ever heard in my life, a great tearing terrible sound with an undertone like a monstrous roaring. We felt the floor jar. It took us some time to cross the main lab, and the passageways, and the low temperature room beyond, all of which are deserted at lunch hour. In that section of the research room we partitioned off for him, we found Harrington. He was trying to kick debris into a hole under his desk. The bench itself, of inch-thick steel, was pierced by some agency which he would not disclose. But evidently it had come. There was apparently nothing on the bench, except a Sheffield ray cartridge that must have got there by mistake. I left Baker to inquire further. Harrington is being held."

"You may go, Johnson," ordered Allen. "Report through the televisor every development. Make Harrington talk. Tell him about his daughter being alive. Tell him we have her prisoner, too. We can prove it by connecting him on the phone with young Bradford. Bradford will be in this Council Chamber within the next thirty minutes." After Johnson had left he laughed.

"Gentlemen—all events are working for us. Are you convinced? Why need we hesitate? The day Albert Harrington accepted our offer to come here was the day our supremacy became possible." He leaned forward, and his throat swelled. "I tell you I would have forced Harrington to this even if he had landed publicly in the *Meteor!* As it is, we have been given time. By keeping the secret of his and Franklin Bradford's presence on the space shell which landed here, we have achieved to power

while the earth slept. We no longer need mines, or diplomacy. And young Bradford will realize that. Power is ours, and we will use it!"

While Allen was urging the Council to a drastic course of action, out of the hills past Allen Lake the vanguard of a ragged army was filing. Fronting them, drawn up on the wide lake shore, were scores of ugly armored cars, with the wide muzzles of Sheffield heat ray projectors protruding over the hoods. Bigger weapons of the same type, worked automatically from the Central Defense Station beyond the Laboratory, were nested in concrete piers on every intersection of the broad Radium Thruway, which led along the hill fronts toward the city. Squads of drilled Company guards, maroon-clad and taciturn, tramped the side streets, and came to rest facing the Thruway. The military strength of the Company, mechanical and human, gathered in frowning truculence as the ragged legion of rebels from the Lake District marched to meet their comrades who filed out of the main mine openings, and were halted at Concentration Square, not two hundred yards from the fleet of trucks at end of the Thruway.

IN the headquarters of the Western League, a man in the uniform of a French officer of staff pounded the desk of League Representative Denly. "He can't do this!" he shouted, his face purple.

"But he is doing it," replied Denly, lifting a pen from the letter he was writing. "We've tried three times. Each time the officers were turned back at the gate. Dubois, we're prisoners."

"Furthermore," he continued, his eyes cold, "they've cut off all power from the League's premises. We can't communicate with New York. We can't get another thing from O'Reilly's squad. We do know they're signalling the earth about Harrington." He scrawled a final word on the paper beneath his hand, folded it, and placed it in an envelope.

"I'll try again to get this over to Allen." Rising he preceded Dubois out of the small office into a larger room where several secretarial desks took up the floor space. Wide open doors led to other parts of the League's headquarters. Flustered stenographers and clerks went from one room to another, to get a better view from the windows. A group of officers were massed in the most advantageous position, at the side of the room overlooking Radium Thruway. Denly, giving his message, and terse orders, to a clerk, walked with Dubois toward the muttering officers.

"Who would have guessed?" growled Dubois. "I thought all along that it was queer, the secrecy, the way that surviving life boat was docked—everybody kept away, the passengers taken to the Executive Buildings in a closed car. But to imprison Albert Harrington—to send false reports to earth, and now *this*," he shook his head. "Allen has lost his mind!"

"Perhaps there's method in his madness," muttered Denly. "He is evidently defying the League, impossible as it sounds. Do you realize what it may mean for those poor devils out there?"

"What do you mean?" asked Dubois. They had pressed into the group of officers, and were looking out over the Metropolis. The window was high above the streets and gave them clear view.

"I mean that Allen may take no chances of a revival of this years long, stubborn rebellion. We were forced to protest his action about blowing in the mine openings, for it seemed his intention was to exterminate the rebel force in the Central District, without waiting for the delayed League expedition. Well—he may yet do it."

"By George, Denly, I've got the same premonition myself!" interrupted a lank Englishman. "I've got the feeling, as I look at those poor devils lining up under the rays, that we may witness a wholesale massacre."

"Impossible! . . . It can't be! . . . No!" The ejaculations come from the officers with such fervor as to show the dread of facing the possibility they denied.

"There's Bradford now," said Denly quickly, pointing. "See—that knot of men leaving the lines. Get me a field glass!" he ordered.

Five minutes later, with a grunt, he removed a telescopic set from his eyes and passed it to Dubois.

"Yes. It's Bradford all right. I'd recognize his shoulders anywhere. O'Reilly's one of the three with him, to judge by the remains of a uniform."

Dubois peered through the double lens toward the group passing between lines of maroon-clad guards, into the courtyard of the Executive Buildings. Bradford, O'Reilly, and two ragged Venusians were going in to their appointed conference with Allen.

In that same great room, Company Chamber, where he had addressed the Council, William Allen delivered his ultimatum to the four representatives of the miners. He sneered as he saw the effect of his words. The room was lit by bulbs in walls and ceiling. The four men seemed small in the center of the floor. A mixture of shadows was at their back. To their right the Councillors sat facing the Director's desk. To left of them a television screen hung on the wall.

Allen concluded. "We will probably deport you all, in the event every order is obeyed instantly. Otherwise—" he shrugged.

Lorry Bradford's voice rang.

"Allen—you can't do this! Remember the earth!"

"Wait!" snapped Allen. "Before you say anything further." He threw a lever on the small television set beside him on the desk.

"I'll kill him—so help me God—I'll kill him!" muttered Lorry Bradford, a slow fire in his veins. O'Reilly was cursing silently. Oswald and Armitage seemed stunned.

Allen was talking into the device on the desk. "Connect me with Johnson. And throw the laboratory on the televisor. Get Harrington into view."

He turned.

"That's the mistake you made, Bradford," he sneered. "Believing the Company in any way subordinate to the League. You've taken your men out of their holes and placed them under Company rays, on that assumption. Well, it's worthless. I tell you again, if my son is not immediately released, I'll burn the whole pack of you into eternity!" His face had congested. The momentum of a great decision was working up in him, till his whole heavy frame trembled with a strange fury.

"Easy, Lorry, easy!" muttered O'Reilly, his breath blowing hard. "Think fast, boy. Keep your head."

The desk phone set buzzed. Johnson's face appeared on the miniature screen, while the larger one on the wall to left of Bradford and O'Reilly lit up, and disclosed the contours of an interior.

"We've found out about that explosion, sir," said Johnson's voice. It was rather hurried, that voice, with a strange uncertain note to it, but neither Allen nor anyone else noticed. "We'll show you presently, on the televisor. Remember my telling you of a Sheffield ray shell, found on the bench? Harrington had made a sort of cartridge out of it, with two chambers, each holding one

type of that radium concentrate. We'll have Harrington in view in a moment, sir."

Allen turned again. He pointed to the laboratory room clearly depicted on the televisor.

"In a moment you will see walking into view the man who made it possible for the Company to take this short cut. Albert Harrington!" he laughed. "What an ironical turn of fate!

"Bradford," he added coldly, his voice lower. "You'd like to jump for me. You've got a splendid body, Bradford—like your father before you. Too bad," he mocked. "Your time has come. Yours, and your father's, and Harrington's.

LORRY BRADFORD, in the space of minutes, thought of many things—of a girl that waited with a reserve group in the hills—of his men drawn up under the Sheffield rays, and as he thought, the life in his body rebelled against fate, against the order of things which let a monster like Allen hold the factors of victory in his hands. And as he stood there, in the desk there appeared again Johnson's face. His voice sounded in the big room.

"I've sent Baker and two men with Harrington toward the main floor, Director." His voice sounded relieved. "Harrington has promised to demonstrate how the radium cartridge works, sir. For a time we were worried. Twenty-five Sheffield ray shells had been reported missing, but probably they were taken by the truck squads." Allen was frowning. Suddenly there sounded, from the desk sets, a tearing, indescribable noise, merging into a deep-toned roar. Allen swung around to face the desk. Johnson's features showed stark fear.

Then Allen lifted his head, to look at the larger television screen. A man was entering the field of vision, walking backward. He came fully into view, and O'Reilly muttered. "Harrington!"

Allen shouted sudden orders. Johnson had disappeared from the desk screen. For a brief moment the whole personnel of the Council moved in haste, its Director galvanized by instinctive apprehension of what was to happen. Then that bent figure of Albert Harrington jerked to the pull of something he held wrapped in cloth in his arms. It seemed as if the world was rent.

The sound alone froze every occupant in Company Chamber, Allen included. It was a new thing to the ears of Man, that sound, a monstrous tearing, an undertone of terrific rumbling bass like the pooled majesty of a million thunderstorms, the voice of Power naked and unleashed. The humans stood awed, as once the savage was awed by rumblings in the sky, by the deep-toned authority of the hunting cats in the darkness of a Paleolithic night. Then Allen broke the trance. But even as he moved, the lights in the building puffed out. Harrington and the laboratory vanished from the televisor. In the darkness the whole building seemed to quiver in echo to some terrific catastrophe which had struck the Central Metropolis.

Bradford tried to find Allen in the gloom. But his raging purpose spent itself at thought of the greater drama being enacted outside. Blundering around, he found the main doorway, and called to O'Reilly. The sergeant joined him. Oswald and Armitage, the two Venusian leaders who had accompanied them, did not respond to repeated calls.

"They're gone!" muttered O'Reilly. "I lost time looking for you."

"Follow me," ordered Bradford.

Half an hour later, they were moving, in short runs, toward the laboratory. An incessant crash of falling structures filled the air, but these sounds made but small impression of their ear drums, which ached to the repetition of a monstrous roaring, dwarfing all else, that sent them cowering to earth. As they moved thus, in spurts, through the debris choked streets, glimpses were given them, of the last remnants of the fleeing Venusians heading back for the mines, of a torn and tumbled and scoured depression of ground which marked the site of Radium Thruway Terminus. Fragments of armored cars were scattered along its rim. In straight swaths, making a path back to the laboratory, the concrete buildings were no more, and sometimes as the two men crouched they could see solid structures moil in an undescribable contortion, as if dead matter was writhing in agony before vanishing into nothingness. The whole surface of Allen Lake was heaped up into tremendous waves, its waters lashed at intervals by some terribly violent agitation.

"The atom!" gasped O'Reilly. "Hell's loose, Lorry!"

"No!" growled Bradford. "Harrington's harnessed it. Come on!"

In a gouged depression of earth they found Oswald and Armitage, frankly terrified. The great scar in the ground circled the laboratory buildings.

"It looks as if Harrington, first of all, drew a circle with an awful instrument, around him," muttered Oswald. "We'll run out, openly," said Bradford. "When the Lake starts heaving again. Wherever he is, he'll be facing the water then, and by time he turns and changes direction of his weapon, he'll recognize us."

They ran, out of the ravine, over its edge, and made the laboratory grounds uninjured. Company guards were running here and there, but it was plain that there was no fight in them. Fear, stark fear, had descended upon the Central Metropolis.

"The bombers!" breathed O'Reilly. "They're coming back!"

"Hurry!" gritted Bradford.

They found Harrington. He was at a window in the main laboratory room. He seemed shrunken, old, his arms wrapped about a bundle he pressed to his waist, resting its front on the window sill. It was a circular cartridge wrapped in clothing operated by a tiny lever at back. Part of the walls of the room were pockmarked with great holes.

"Guns!" said Harrington tonelessly. "Beyond that door—" nodding. "Sheffield ray guns. I've got other atomic release cartridges in them. Swing some out here, and point them at those planes. This is just a makeshift."

The staff officers of League Headquarters afterward wrote long accounts of how a mighty Company air squadron roaring toward the city had been blasted into nothingness. They had a good view from that high window.

THUS, with cataclysmic suddenness victory came to Franklin Bradford's cause. Director Allen was caught by a squad of Venusians some hours later, trying to escape in an armored car toward the Second Metropolis. He was bound with much gusto by his ragged captors, and taken back to judgment. The news spread. More and more men came out of the hills to gaze in awe at a torn city, to take part in the activities of a new freedom. In a few hours after Allen's capture messages were tapped out to every metropolis in Venusia. Surrender, or destruction.

The Company rallied and fought back, at first. But resistance was brief. Armored cars, speeding at two hundred miles an hour over the string straight inter city roads went from metropolis to metropolis, and left a new order behind them. For they were mounted with a weapon that made resistance futile. The original settlers and their descendants rose in a body throughout the nation,

throwing off the yoke which long years of diplomacy, trickery and armed power had fastened upon them. In a month the revolution was complete.

At the start of that tremendous social upheaval, on the giant receptor in the Executive Buildings, a message from earth had crackled. The voice translators spoke it out.

"Recent dispatches concerning Harrington acted upon. Director Allen's refusal to communicate amounts to sedition. League seized all Company ships in New York, London, and Rome docks. Ten thousand men coming across space. Stand by for orders. Signed—President Quinby."

To which, after deliberation of the first Venusian Congress, hastily assembled, this reply was sent.

"Company no longer in existence. Venus wants, and will have, absolute independence. Details to follow. Ten thousand men will have to parade in honor of new Republic. Signed, President of Venusian Congress—Franklin Bradford."

So did the old pioneer, a hunted outcast for years come into his own. He was released from confinement to find his people free, and his son alive, though much occupied with a girl, from the soul of whom a double burden had been lifted.

Harrington had wept as he held Sheila in his arms.

"They told me, but I did not believe. I thought it another trick. I was desperate, and decided to let the wrath of God deal with these inhuman monsters. I don't know how I nerved myself to hold that shell," he admitted later to a committee of scientists who had come over with the earth's squadron. "I had been collecting nuclear and electronic concentrates for some time, and using them to form shells out of the Sheffield casings. But there was no opportunity to reach the ones I had concealed in the reserve ray guns. Baker and two men from whom I had broken away were running toward me." He shook his grey head. "It aged me twenty years. I'll never meddle with that terrible power again. It's all there, formulae and equipment. Other ways will be found of bringing those two streams of basic electrical phenomena into conjunction. But be careful. That is my admonition. An awful force is unleased when matter so annihilates itself. Be careful. For myself, I thank God I found courage to do what I have."

The League, after negotiations, parleys, talks in code, talks on television screens, wrangles and reservations granted the demand of independence. Came the day of the parade. Denly, League Representative of the Executive Buildings:

"I wonder, Dubois. The explanation is that the people of the United States, remembering their own history, forced the League to acquiesce. But I wonder," he repeated, "if the thing in there," nodding toward the Laboratory Buildings, "is not a bit responsible. There's a terrible power in there, Dubois. I think it means the end of war."

Along the partially reconstructed length of Radium Thruway marched the drilled forces of the League, khaki and blue and white and olive drab. A platoon of Venusians swung into step, and a cheer broke from watching thousands. Salutes boomed out as a new flag, green and gold, fluttered in the light Venusian wind.

"Look at them!" said Dubois, nudging Denly. "The President's party—I mean, further along the porch. Look at old Bradford—his face—" And they watched the old erect president reviewing the march, surrounded by interested earth officials.

"Well, to come out of a dungeon into the Presidency of a great nation is something to be agitated about," replied Denly. "And the girl and boy by his side there, with Harrington—see—they are—"

"Happy," said Dubois with Latin certainty. "Young, with memories of a great adventure to hold them together through life. Do you realize, Denly," he asked, "that the fate of a whole people has been decided by a drama affecting just a few persons? Harrington would never have unleashed that terrible power, except under pressure of desperation. He thought his daughter dead, himself doomed to die, for how could he any longer trust Allen's word? The *Meteor* disaster had unbalanced Allen completely. With Harrington in his hands he believed he could cut loose from all human sanity. I hear that both he and his son are to be incarcerated for life."

"Fate," said Denly slowly, watching Lorry Bradford and his wife standing in the Presidential group on the wide porch to their left. "Fate, Dubois. Mostly it is grim. But this time it has brought happiness to thousands, and freedom to a planet."

The salutes boomed again.

THE END

IN THE JULY WONDER STORIES IS A NEW PRIZE CONTEST

Of late, we have been hearing a good deal of comment, pro and con, on our usual covers depicting an incident from a story in the same issue. Some of our readers have objected to these covers as being too "wild," "undignified," and lacking aesthetic appeal.

So, after thinking deeply of the subject, the editor presents in the July WONDER STORIES a new idea in covers and he submits it for your consideration.

Paul has executed this cover; and the effect may be termed striking, if not puzzling.

There is, however, an idea behind the cover, and a good scientific one at that. See if you can determine what the cover represents and what your impressions and thoughts are as you behold it either in a close up view or 15 feet away from it. As stated, the editor had a sound scientific idea underlying the design, and it is up to you to find out what it represents. A word of caution; no story in the issue has any bearing on the cover.

PRIZES

First Prize $15.00
Second Prize 7.50
Third Prize 5.00
Fourth to Tenth Prizes
—A year's subscription to either **Wonder Stories** or **Everyday Science and Mechanics**, at the option of the winner.

So much for that. Now see if you can win a prize by giving the best and most accurate explanation of the cover. Please read the rules carefully:

RULES ON JULY COVER PRIZE CONTEST

You are asked in a letter containing no more than 300 words to state the correct solution of what the July WONDER STORIES cover represents.

1. The basis of the contest is a scientific one, and the letter therefore should contain a phase of science directly connected with the cover.

2. The letter may contain sketches to make your meaning clear. If this should be necessary, such sketches should be on a separate piece of paper. All letters should be typewritten or penned, pencilled letters cannot be considered.

3. Letters will be judged for their ingenuity and scientific content by the editors of WONDER STORIES, whose judgment will be final.

4. The editors cannot engage in correspondence in this particular contest, and no manuscripts can be returned. From this contest are excluded the employees and their families of WONDER STORIES as well as the allied magazines published by this company.

5. This contest closes on July 25th, by which time all entries must be received. Prize winning answers will be printed in the October 1932 issue of WONDER STORIES.

Address all letters to Editor Cover Contest, c/o WONDER STORIES, 96-98 Park Place, New York City.

THE VOYAGE OF THE ASTEROID

By Laurence Manning

(*Illustration by Paul*)

The reptile-men heaved on the rope. Tyrannus caught his foot hard and the vibration of his fall caused the ground to tremble.

THE VOYAGE OF THE *ASTEROID*

by the author of "The City of the Living Dead"

I WOULD have forgotten what day it was except for Mason. He solemnly entered my bedroom that morn- bearing a loaf of pound cake into which he had stuck three dozen candles. It made a sorry mess, the more so when he had lit the tapers and the wax dripped an unwholesome pink icing over all.

"Thirty-six years old," he pronounced, brooding over his gift. "You are very nicely divisible by three and two in all their combinations. Last year it was five and seven and a little more unusual. But thirty-six is a very practical number in many ways—how does it feel?"

This curse of absurd humor is, in my opinion, one reason that Dr. Arthur Finch Mason is still only an associate professor of mathematics. He was inordinately popular with his students and he was very successful in instilling in them not only a knowledge of his subject but a sincere liking for it as well. But he achieved his results only after breaking half the rules of pedagogy and his fellow members on the faculty observed his progress with some distrust.

We had been at college together — close friends, in fact. Three years ago he had come to me in deep distress, for his young wife had died and he was once more alone in the world. We had obtained an apartment in West 86th street and moved in as permanent partners. Living in New York can be a lonely business and I found Mason an ideal companion — sensible and earnest beneath his camouflage of absurdity. Physically he was tall and thin, with pale and rather distinguished features. His demeanor was serious and dignified, a fact which rendered his drolleries all the more remarkable and — to some extent — incomprehensible.

LAURENCE MANNING

MR. MANNING has here attempted, and we believe succeeded in picturing what an actual interplanetary journey might be like, and what astronauts might expect to find upon other worlds.

His characters are not supermen, they are not men who believe that a journey to another world might be a pleasureable picnic. They are men of determination, but men with the weaknesses all of us have. Our author has shown therefore, how any of us might feel if tomorrow we were invited by a recognized scientific authority to make a trip to Mars or Venus.

The second question that occurs to readers is: assuming it were possible to go to Venus or Mars, what could one do there? Would there be the Venusian or Martian princess just waiting to marry our hero and bestow unlimited wealth upon him, or might our explorers meet dangers, terrors, discomforts so great that all attempts at exploration would completely fail and our explorers would be glad to get back to earth with their skins?

The editors after reading this story believe that by its simplicity, and its sticking to realities, it proves more exciting and more thrilling than the most fanciful of tales.

"Now next year," continued my friend, "You will have reached a prime number—thirty-seven. I wonder whether a man is in his prime only when his age is? There's an idea! The prime ages of man: At one the puling infant; at three the walking, talking terror!"

I was not in the mood for nonsense that morning and proceeded to the bathroom for a shower. Mason was tenacious, however, and followed me in. Over the noise of the shower I could hear him continuing his witticism to its bitter end.

"Seven is the age of first sense and schooling; eleven and thirteen arrive with puberty . . ."

I turned the water on full force and drowned out his voice. But when I had finished bathing and proceeded to get dressed he was still at it.

"Thirty-seven," he was saying, "is the prime of life. From then the mainspring commences to unwind. This year, Bigelow, is your last year of youth!"

Breakfast silenced him at last. This particular morning was a Saturday and neither of us was compelled to labor. We settled down to a day of rest. I browsed through a copy of *Lens and Bellows*—the magazine of which I am editor — and mused idly upon certain changes I had in mind for the next issue. But my mind refused to remain engaged upon the print before me. I found myself in a sober, thoughtful mood. Mason's mock seriousness had had its effect on me.

Thirty-six years old, I thought. Rather soon now it would be forty; then fifty. Then what? Was I really doing the kind of thing I wanted to do with my life? My memory conjured up myself at twenty—a budding young naturalist full of purpose and courage. Once I had other plans for my career: adventurous expeditions to out-of-the-way lands looking for strange plants and animals: the thrill of discovery! The heady wine of fame! But here I was and here was I likely to remain until I died. I could see the obituary notices of my death. They would be tucked away on inside pages of newspapers. My own magazine would give

a history of my life in a black-bordered page. Then oblivion.

I sighed and stirred restlessly in the comfortable lounge chair.

"What's the use of it all!" I exclaimed aloud.

Mason looked up from his book. "There is an unwritten law against philosophy before noon. What you need is some exercise. Fresh air! A glimpse of life and motion! Let's go for a drive."

"Where to?" I queried listlessly.

"The Connecticut countryside should be worth a look this time of year. Evergreens will be budding out—maples coming into leaf. There are a thousand things to see."

"All right. I'll take along a camera."

Mason raised his eyebrows humorously. "Of course! How could I have forgotten that detail?"

We donned hats and coats and walked around to the garage and started up Riverside Drive. Thus casually commenced the series of events which led to the greatest adventure of our lives. There is an extraordinary orderliness about life. One little thing compels another to follow it, until the ultimate happening is inevitable.

The country was beautiful. We went up through Westchester County and inland across the state line into Connecticut. Mason drove. Now and again we stopped while I took a picture and a little after one o'clock we had lunch on sandwiches and beer at a roadside stand.

I took the wheel after that and, following the mood of the moment, turned into a side road and went for some miles along it. Again I took an inviting branch road and proceeded without thought or care for direction or destination until we found ourselves bumping along parallel ruts in a single-track lane that wound in and about hedges of cat-vine and alder.

The spring sun brought out the fragrance of the leaves and flowers and we stopped the car and climbed out. I was setting up the camera in this idyllic scene when it happened: a sudden hissing roar passed from right to left overhead and I caught a glimpse of a round dark thing flashing higher and higher until it disappeared in the sky.

I turned to Mason, who was still staring with open mouth.

"What in Heaven's name was that?"

Mason stared without reply at the spot where it had vanished. Suddenly I heard him gasp. I looked up eagerly. There was an airplane descending swiftly toward us. Its motor was evidently shut off, for it made no sound. It sighed overhead not five hundred feet up and seemed to be aiming for the ground just beyond the hedgerow on our right. We had a brief view of it, and strange enough it seemed. The wings were unusually short and stubby. The fuselage was enormous in proportion—perhaps fifty feet across and as much long. It was shaped like a cylinder and was dull silver in color. There did not seem to be any landing wheels.

"Come on!" Mason burst excitedly through the hedge and disappeared from view. I followed, tearing my clothes on the thorns of the cat-vine, but thinking nothing of it. We ran for five minutes up a slight slope of shrubs and weeds and were stopped by a stone wall. It was no ordinary Connecticut dry rubble wall, but rose twelve feet high and was well cemented. Trees made a thicket which concealed its existence until we were within a few feet of the obstruction.

"Now what?" I panted.

"OVER it!" answered Mason and with the agility of a boy he commenced to climb a tree whose branches brushed the top of the wall. We managed to climb along these branches and reach the jagged top without mishap. But our view was not better in the least. Beyond the wall we found that the ground rose, heavily wooded. It was a scene of some charm and beauty, but our curiosity was too much aroused to permit our enjoying it.

"There doesn't seem to be anyone in sight," remarked Mason thoughtfully.

"It would be trespassing," I demurred.

"I'm going down," he announced determinedly.

And down we went, hanging by our fingers and dropping to the earth beneath. We pushed our way stealthily uphill through the woods for five minutes—like schoolboys on an apple raid. I began to realize the awkwardness of our position.

"I'm going back, Mason! Suppose we're caught here—rather embarrassing for us, don't you think? It was just an airplane, anyway."

"No airplane ever went as fast as that. I've simply got to see what it was. Come on, Bigelow! Nobody will see us. Let's go to the top of this hill at least. Perhaps we can see from there."

In a few moments we did indeed reach the top of the hill and the edge of the woods at the same time. The ground dropped away before us in a slope perhaps a half mile long. Rock and grass shared this incline and at the foot a broad meadow country led the eye to wooded hills some two miles beyond. We looked down into a completely-enclosed valley.

A lake lay in the meadowland. It was some miles in length and half that in width. On the far side stood a tall building of peculiar shape. Partly pulled up on the shore lay our airplane—if it was one. Even at that distance we could make out the figures of men around it and presently a huge derrick swung out from the side of the building and the strange ship began to crawl slowly farther up the shore. We were at a loss for an explanation of anything we saw. I was just going to speak to Mason when a crisp voice startled me:

"Put them up!"

We swung around and gazed guiltily at a very large revolver. Holding it was a short, sturdy person, very red of face. He was dressed in brown knee breeches and leather leggings. A rough khaki shirt and peaked cap completed his attire. Red-faced ourselves, we put our hands in the air.

He pointed along the crest of the hill to the left.

"March!" he ordered.

We obeyed. A faint path was marked through the brush and this we followed for not more than a hundred yards when the wall came again into sight. A grilled iron gate was let into it at this point. Our captor commanded us to unlatch it. We did so and passed through, whereupon he closed and locked the gate behind us.

We stood on the roadway feeling (for my own part) decidedly foolish. Our late captor eyed us phlegmatically through the grill.

"What is this place?" demanded Mason.

He received no answer and I could see his cheek flush with anger.

"Who owns it?" I queried impatiently.

"You'd best move on," said the man in brown. "I've no information to give out."

I was quite irritated. "My good man," I said firmly. "We are respectable men and have asked you civil questions. Whatever your orders may be, they do not include incivility to strangers, I am sure."

His grin made me more annoyed than ever. With a senseless desire to impress the man, I fumbled for my card case and handed a card through the gate.

"If you will be so good as to give that to your master,"

I requested with what I hoped was biting dignity, "and explain to him that we saw his airplane and followed its course out of natural curiosity, I will give you a dollar."

"Oh all right!" he said curtly. "'Twill do you no good though."

I handed in the dollar and we walked in silence back to the car. Mason drove at a vicious pace and we soon came out upon a well-surfaced road. We found ourselves only seven miles from Silvermine, according to the signpost. Being so close to the seacoast, we kept our course along various roads leading southeast until we reached the Boston Post Road, and thence back to New York. It was evening when we reached our apartment.

"What did you give that fool your card for?" growled Mason.

"It was the proper thing to do," I answered, flushing slightly at the memory. "I wish I knew who the brute is!"

Mason grunted and proceeded to disrobe. He entered the bathroom and I heard the shower running. I was in no mood for sleep. The events of the day had somehow turned my mind back fifteen years. A great discontent possessed me. I rooted about in the bottom of my trunk and brought to light my notes on paleobotany. I turned the pages moodily, surprised to find that my work had been rather good. Some photographs of specimens were pasted in the pages of the notebook to remind me of my one summer of unalloyed joy, collecting fossil plants in Montana.

Mason came into the room clad in his bathrobe.

"Some people have all the luck," he said. "Think of owning a hidden valley in Connecticut and having nothing to do but experiment with flying machines!"

He sighed. "Do you know," he added, "I'm going to take my sabbatical year starting this summer. I'm getting bored with all this."

"Where will you go?" I asked enviously.

"I think I can get Perkins to let me in at the Mount Wilson Observatory. He's going to work on spectroscopic analyses of the planets next year. It should be fun. I've always been interested in the subject."

"Curious you should mention your astronomy! I have just been thinking about my own hobby—looking up my notes on paleobotany."

Mason nodded soberly. "What we both need is some excitement," he said.

IT was, I believe, on the next Wednesday that a series of small mysterious events commenced. I had just returned to my office after lunch when Jackson, my assistant, told me that I had had a caller during my absence.

"Said he was from the Mutual Insurance Company," offered Jackson. "Asked for you, but when I told him you were out he said it didn't matter. All he wanted was to find out if you really worked here. Matter of form, I took it. Checking up for that new policy you are taking out with his company, you know."

"But Jackson! I am not taking out an insurance policy with the Mutual or any other company!"

Jackson looked surprised.

"Must have been someone else then . . . but he seemed to be certain of your name. Stephen Bigelow, he said."

I inquired as to what sort of things he wanted to know. Apparently he had confined his questions to my business connections.

"Oh yes," added Jackson, "he asked if you kept mostly in the office or went out-of-doors a good deal. Seemed to think you were a botanist."

"What did he look like?"

But my assistant only remembered that he had been rather short and slight. "Pleasant sort of fellow, you know."

I dismissed the matter from my mind until I got back to the apartment that evening. Sam, the colored elevator boy, spoke to me.

"Dere was a man askin' about you-all here today, suh." suh."

"What did he want, Sam?"

"Oh—jess wanted to make sure you-all lived heah, I reckon. Said he was f'um a depahment stoah, Mister Bigelow."

Mason was in the apartment when I opened the door. I told him and he was as mystified as I.

"I have no account with any department store, Mason, and I am taking out no insurance. What do you suppose is going on?"

And the next evening when I got home after work Mason informed me that our mysterious and indefatigable questioner had been up at the University asking about him!

"You don't suppose," I suggested hesitantly, "that it has anything to do with my giving my name up in Connecticut Saturday?"

"Why on earth should it? Besides, that would be only *your* name. Why should anyone poke his nose into *my* affairs? I didn't leave any fool card!"

"Well, perhaps he got your name from Sam at the elevator when he called yesterday," I hazarded.

Mason smiled. "Come!" he said, brightening visibly. "Here we are saying 'perhaps' to things! Well—perhaps, then! Perhaps it's all a deep-laid plot of Italian racketeers. Tired of robbing restaurants and fruit stands, they are going to levy tribute on all salaried men! Ten percent of our income—or they bump us off in some unusual and mysterious way!"

"For Heaven's sake, Mason! Can't you be serious?"

"Perhaps you are really heir to an Earldom and the solicitors are making prudent investigations into your habits before . . ."

But I put my fingers to my ears and commenced reading a book with exaggerated concentration.

Friday night we had a visitor. Mason and I were quietly reading when the doorbell rang. I answered it and in the hall outside stood a rather tall, well-dressed man. His face was shrouded in black whiskers and a well-trimmed beard tapered to his chest.

"Does Mr. Stephen Bigelow live here?" he asked in a deep bass voice.

"I am Mr. Bigelow," I replied.

My visitor stared doubtfully in the half-light of the vestibule. "Why, I believe you are Bigelow!" he exclaimed. "Do you remember me? I'm Haworth—used to know you at Columbia."

It was my turn to stare, for his beard was a thorough disguise. Certainly there was something familiar about the man. "Come in," I invited. "I certainly remember Haworth—but I can't say as much for his beard."

"I had completely forgotten. Of course you wouldn't recognize me this way," he said apologetically as he entered. He stared a moment at my friend. "Why it is . . . isn't this Mason?" he exclaimed.

"It is," I replied and they shook hands cordially. Mason had known Haworth rather better than I, and seemed to recognize him in spite of changes.

Haworth explained his presence. "Happened to be in town tonight with nothing to do. I thought I remembered that Bigelow lived in New York, so I looked him up in the phone book, found his address and dropped over. I'm staying at the Grandison just up the street a block. Fancy my finding Mason here as well," he exclaimed. "How are the mathematics?"

We talked for some time about other days. I had to explain that biology—while still my hobby—had not continued to be my sole work in the world.

"Curious that photography—a mere side line to my original life-work—should not provide me with a living," I said.

But Haworth was much interested in photography, it appeared, and nothing would do but he must see some of my pictures.

And Mason's astronomical leanings were duly recollected and his plans for a year at the observatory on Mount Wilson outlined.

"How are you on navigation, Mason?" asked Haworth suddenly.

We both looked at him in surprise. He seemed embarrassed and muttered some words into his beard.

"To tell the truth," he explained, "I am planning a trip to . . . to some out-of-the-way parts this coming year. Er . . . ah . . . part of the way by air." He seemed to be choosing his words with great care. "I need a good navigator. Not only that, but a man I can trust as a traveling companion as well. I thought perhaps . . . well, if you weren't absolutely settled on going to the Coast next year . . ."

His voice trailed off ineffectually.

Mason puffed quietly at his pipe.

"I don't know. What sort of a trip is it going to be?"

"Scientific exploration," replied Haworth. "As a matter of fact, I could use a naturalist, too. Particularly if he were handy with a camera." He turned to me. "It would be absolutely ideal if we could all three go along. Now if you could drop your magazine for a year, Bigelow, we could . . ."

"Just a moment, Haworth!" I interrupted. "How did you know I worked on a magazine?"

"Oh damn!" he replied. He seemed to think a minute and then shrugged his shoulders. "I might have known I couldn't carry it through. Never was any good at this sort of thing. I'll have to make a clean breast of it."

"You certainly will!" And I strode over to stand between him and the door by which he had entered.

CHAPTER II

Haworth's Proposal

HE looked at me quizzically. "Oh, it's nothing much to tell," he said. "You needn't get excited. One of my men caught you nosing around at my place last Saturday."

Mason rose excitedly. "So you're the man! What on earth kind of flying machine have you got there? Why are you so secretive about it?"

"And why have you been putting detectives upon us?" I added.

"One at a time! One at a time!" replied our visitors. "I'm not going to say just now what kind of a vessel I've been building. But I really am going on a trip in her and I am really looking for two men to go with me. Curiously enough, you two are exactly qualified—made to order for the job! That's why I came to look you over and make your acquaintance again. I see you haven't changed much since the old days—men sometimes do, you know.

"When Jones brought me your card, Bigelow, I was just on the point of writing our old professor to see if he could recommend anyone for the post. But I remembered you had been trained as a naturalist and I wrote a detective agency to look you up. As soon as I got a report from them that you were living with Mason—well, here I am."

He peered at us shrewdly. "Come, what do you say? A trip of indefinite duration. Plenty of excitement and plenty of danger, too, I must admit. But there's a chance, if we succeed, to make yourselves famous from one end of the world to the other. There will be enough new material to make a dozen scientific treatises. We won't fail for lack of capital, that I can assure you. My people left me well-off—I've more money than I can spend, as a matter of fact. But I'll spend every cent of it if need be."

"That's all very well, Haworth," I said. "But where are you going? You can't expect us to start off with you like this. Speaking for myself, at least, I should want to see your airplane and study your plans most carefully before I pretended to make any decision whatsoever."

"And so you shall," said Haworth, nodding his head decisively so that his beard raised and lowered itself on his chest. "The ship's sound enough, you'll find. And as for our destination, I would even go so far as to take your advice in the matter, Mason. What I really want to know tonight is whether, all other things being satisfactory, you would consider such an adventure? How about you?"

"Humm! X being unknown and Y not given, find their respective values!" replied Mason thoughtfully. "It's quite a pig-in-a-poke business, Haworth. But if it proves interesting—of course, I'd be interested, wouldn't I? I'd go, that is, provided Bigelow would go along too. How about it, old man?"

The whole suggestion was so unusual and irregular that I could not master a rising irritation.

"What an absurd way to propose a scientific expedition! If you mean to ask us whether we could go if we wanted to, I can only say, of course we could. Someone else could take over my work. I presume some remuneration would be provided, Haworth?"

He nodded emphatically, without speaking.

"Why don't you tell us frankly what kind of a trip you have in mind?" I burst forth. "I don't like this air of mystery at all."

"Neither do I, Bigelow," was the surprising rejoinder. "This is no usual trip I plan. I have found it does not pay to talk about it. Some have seen fit to ridicule it and so I'm trying to keep it quiet until plans are farther along. Then too, I will have certain inventions to put through the Patent Office. I'll agree to this much, however. Sleep on it tonight. Tomorrow we'll have lunch together at the Grandison and if you can say that you are honestly interested—no more than that—I'll tell you the whole story and you can make a definite decision."

And since he gathered up his hat and cane at this point and bade us a determined good night, we had to be content with that.

Next morning I awoke early and lay quietly in bed. I felt, for some unknown reason, that I should be happy and excited about something. It was several minutes before I remembered the events of the previous evening and I was suddenly thrilled and interested. I glanced at my bedside alarm-clock and, since it read only eight o'clock, I did not rise—although I was by now thoroughly awake.

Saturday morning once more, I thought, and nothing in particular to do. Our appointment with Haworth was for lunch. My thoughts went back the long vista of Saturday mornings I had spent in this apartment and the drab comfort of it seemed, for no good reason, quite unalluring. I analyzed my feelings and came to realize just how dulled and bored my senses had been for months past. I made up my mind then and there that if Haworth's proposal proved in any way a sensible one, that I

should certainly accept it. What kind of a trip, I thought, would require an airplane such as we had seen last week? Possibly, it occurred to me, some very inaccessible country like . . . like the country of the Amazon, for instance. Perhaps that was where Haworth proposed exploring. I was on the point of rising to suggest this to Mason, when he appeared, yawning, in my doorway.

"Half past eight," he announced. "How do you feel about Haworth this morning?"

"What do you know about him?" I countered.

Mason frowned sleepily. "You remember him at college? Well, let's see now. You were there that night he left. Poor chap! His father was Haworth of the Haworth Silk millions. Left it all behind him when he was killed that night. Charlie Haworth was the only son. I haven't heard anything about him for years, so I don't know any more than you what he has been up to, but at college, he majored in physics and astronomy. He had some rather sound theories on general science and some fairly wild ones on political economy. Rather a steady chap, I'd say, and persistent. Obstinate, in fact. But he's a good sort and should have both the necessary brains and money to get up something real in the way of an exploring trip."

I ASKED Mason what he thought of the possibility that Haworth's goal might be the Amazon River country and we soon had an Atlas out on the table measuring distances and reckoning probable courses. By ten o'clock we sat down to breakfast half persuaded that we had guessed the purpose of the voyage. We need not be criticized for this, since there is a vast area absolutely unexplored and unattainable by ordinary means of travel.

Time dragged slowly that morning. At twelve o'clock we dressed and departed, being unable to wait longer. I found myself full of overpowering curiosity and eagerness. At the Grandison, Haworth sent down word to wait in the lobby and, fortunately for our patience, which was fast departing, he arrived a few minutes after we had received his message.

"Well?" he asked.

Mason looked at me and I nodded determinedly. "We will probably go with you," I said. "Now tell us what it's all about!"

But Haworth seemed unwilling to do this immediately and I found some of the annoyance and suspicion of last night returning to me.

"Let us have our lunch first," he demurred. "I'm hungry. We will have all the rest of the day, you know."

I cannot now recall anything that I ate that meal. Possibly I never knew. Somehow it was finished and our cigarettes were alight.

"You know, Haworth, we've guessed pretty well where you are going, anyway!"

He looked up, startled.

Mason nodded his head sagaciously. "It's the Amazon River, isn't it?"

Haworth colored slightly. His hand fingered his beard nervously. "Not exactly," he replied. "That ought to be done sometime, of course, but I am planning a more interesting trip than that by long odds."

He reached into his pocket and produced a photographic print.

"Look this over," he said, and I thought he seemed embarrassed.

Mason and I put our heads together over the photograph. It was seemingly a white ball set in a black background. The plate was foggy and the picture not a very clear one. There seemed no purpose in showing it to us.

I looked up inquiringly.

"Look closely at it," urged Haworth.

And I did. The white ball was the Earth. There, faintly marked on its surface, were the continents of North and South America, slightly obscured by patches of vague grey.

"Good Lord!" exploded Mason.

"Exactly," observed Haworth and puffed a cloud of smoke contentedly toward the ceiling.

But I was just beginning to realize the implications. "Do you mean to say," I began, "that this photograph . ."

Haworth held up his hand and I stopped. "That photograph was taken by me with a small Kodak two months ago."

"Then where were you?" I asked in bewilderment.

"About two thousand miles above the earth!"

"Not in the ship we saw? Of course! Of course!" exclaimed Mason.

"The same. Some slight changes had been made when you saw it, but substantially the same ship," replied our host.

"But man alive!" shouted Mason, forgetting our surroundings entirely. "Then our expedition . . . is going to be . . . Great Heavens!"

"Exactly!" nodded Charles Haworth. "Great Heavens! And wherever in them we want to voyage."

We need not have been as startled as we were. After all, Professor Goddard had been writing and experimenting since 1919 on vehicles for travel in airless space. There had been much discussion of its possibilities in the daily press during 1930 and 1931. Personally I did not quite understand what it was all about, but I recollected one evening seeing posted on the notice board in the Museum of Natural History word to the affect that the American Interplanetary Society was holding a meeting. I had been slightly amazed when I had made inquiries and learned that his society had for its object the furtherance of plans for travel to other planets. But all this was insufficient to prepare me for Haworth's photograph.

Mason's clear-cut features were in profile as I turned to him. His eyes flashed eagerly and his jaw tensely clenched.

"You actually flew out that distance and returned safely?"

"My dear Mason," Haworth answered amusedly, "I did so four times."

"Why be surprised?" he continued. "Esnault-Pelterie and Herman Oberth have both published detailed scientific discussions of such a possibility. Goddard in this country has built and flown successful rocket vehicles—not to any great height, perhaps, but distance is a mere matter of proportion. I have just gone a little further along the road of discovery."

"But," I interposed, "are we then to understand that our proposed scientific expedition is to take us into space in this—this rocket, is it not?—and our goal is to be . . . ?"

But Mason was on his feet and starting for the door of the restaurant.

"Come along," he called. "Hurry before this dream ends and we all wake up!"

And we left that place with the stares of the other diners following us.

Haworth had a car and chauffeur outside the Grandison, waiting. This visible sign of wealth gave me a sense of the reality of things. We headed for Connecticut, voluble and excited. But I had one major puzzle still to be solved.

"This car," I commenced doubtfully, "proceeds along the road because the wheels push it forward with great force. An airplane travels rapidly and powerfully through the atmosphere because the propeller has air to grip on.

But how, may I ask, can any vehicle travel forward under power if there is nothing but empty space about it? On what will the engines expend their thrust?"

Mason shook his head. "You stick to your photographs and be a good little naturalist, Bigelow. You don't understand physics."

"But I must understand this!"

"Very well, the principle of recoil is what propels a rocket. For every action there must be an equal and opposite action. Are you satisfied?"

"I don't know quite what you are talking about. Suppose I am in space. I want to move to the left. How shall I proceed to do so?"

Haworth interrupted. "Suppose there are two barrels in space, fastened end to end. You, Bigelow, are in one of the barrels. In the other is merely some ballast of stones. Between the two barrels is a small charge of dynamite."

I NODDED understandingly.

"Now my problem is to move you to the left, eh?"

I began to see light.

"The dynamite explodes. The two barrels are thrown violently apart. The ballast is thrown away to the right but the barrel which contains Mr. Stephen Bigelow is moved to the left. *Quod erat demonstrandum!*"

"That's so!" I cried. "But such an explosion would hardly be called power flight. How would you proceed after that?"

"Very simply. Instead of one barrel to throw away, I will have ten thousand. One after the other I hurl them from me, each one lending the force of its recoil to my vessel, which attains huge speeds.

"Naturally enough, I do not use real barrels—they are purely figurative. In practice the most efficient thing to throw away is the waste gaseous product of an explosion or of steady combustion. From the tail of my vessel the white hot gases pour at a speed of more than two miles a second! Is it any wonder that after a few seconds of this discharge the ship moves rapidly back in recoil from this roaring exhaust?"

"But can that produce power enough?"

"Wait until you have been deafened and thrilled by its fury!"

I had begun, at last, to understand the matter when we turned down the lane of our adventure the week before. But this time we had the main gate opened wide for us The red-faced keeper was eyeing us phlegmatically. Haworth called him over to the side of the car.

"Jones! This is Mr. Mason and this is Mr. Bigelow. They are going to be with me for some weeks. They will help me run the *Asteroid*."

It was a small triumph, but Jones was as impassive as ever. Mason leaned past me and handed him a dollar.

"I think both Mr. Bigelow and myself should start even!" he remarked.

I caught a twinkle of amusement in Haworth's eye and we drove on. The road came suddenly around a sharp turn and we rolled to a stop before a fine Colonial mansion.

Mason and I were intent upon an instant visit to the ship. A walk of a hundred yards through a strip of woods brought us to the shore of the lake beside a most unusual building. We had seen this before from a distance. It was huge and in shape suggested an old fashioned grain elevator, painted black. A small door gave us access to the interior and we pressed eagerly inside, Haworth following us. Now for the first time we realized the enormous proportions of the vessel we had seen. Soft and sheer she gleamed above our heads a full hundred feet or more, until her tapering nose was lost in the dusk of the hangar.

Haworth patted the metal hull affectionately. "Tried and tested," he said, "and a sweet job, by and large!" He stepped outside a moment and called for "Bill." Bill proved to be a capable-looking mechanic who came up to the door of the great shed chewing a straw and eyeing Mason and myself curiously. We were introduced.

"She's all finished, Mr. Haworth," he said, "except for fitting her into the first step. I have the new liquefying plant running now, filling the main oxygen tanks over in the cove."

Haworth turned to us. "Of course this ship here isn't nearly large enough for an extended trip at really high speeds. This is just the paying cargo, so to speak, that will fit into the nose of the actual vessel. That will be more than eight times as large. We'll see her later on. She's completely finished and being fueled now—half a mile down the lake.

"The big ship the 'first step' we call her—starts off into space and takes us out until her fuel is gone. Then we discard her and go the rest of the way in the *Asteroid* here. And even the *Asteroid* is only a second step. She carries a little eighty-ton vessel in her nose that will make the final stages of the return flight with us inside."

"How big is the first step, then?"

"About five thousand tons," replied Haworth, and Bill nodded confirmation.

"What fuel do you use?"

"Gasoline and liquid oxygen. You see, Bigelow, there isn't any air where we are going, so we have to take along oxygen in order to burn the fuel. And the fuel isn't exactly gasoline—there are one or two things added that make a deal of difference in results. You know how much more efficient ethyl gas is than ordinary gasoline? Well, ethyl gas isn't the end of the story by any means. We've got a fuel several times better for our purpose than pure gasoline. I'll show you the formula later on, but that is one of the things not to be made public.

"Each step is a complete ship. It has fuel tanks and pumps and a refrigerating system and an explosion chamber for burning the fuel. It has exhaust tubes and steering tubes for propelling the ship. But, of course, only the final eighty-ton vessel has a cabin or a control system. My experimental and test flights have all been made in the *Asteroid*—the second step with the little vessel in its nose. She weighs 640 tons, 80 of which are the cargo. This cargo consists of the little vessel in which is placed myself and all equipment. It costs only about $40,000 to fuel the *Asteroid*—a two-step unit—so I have used her on all test flights to save expense."

"To save expense!"

"Yes. To fuel the entire three-step unit would cost over $300,000," explained Haworth. "Moreover, there's no need to test the whole. If two steps work properly, then so will three. As a matter of fact, I'm all through testing. We're about ready now for the actual voyage."

"Where?" shot Mason, his eyes bright with excitement.

Haworth looked at him a moment in silent approval. "Good man! That's a question you must help me decide." He consulted his watch. "It's five now. I suggest we go up to the house and have some food and spend the entire evening determining that very point. It might make some difference in construction and equipment."

CHAPTER III

Final Preparations

BUT I was unwilling to depart from the vicinity of the hangar until I had been inside the *Asteroid*. Haworth led the way up a ladder of aluminum streamlined rungs let into the hull. One by one we labored up the vertical ascent and crowded into a tiny vestibule at the top. Haworth used a key and we tumbled through a massive steel doorway into a most peculiar room. Lights were set flush with the walls in all directions. The floor was a circle some fifty feet across. The ceiling was only eight feet high, except at the sides where it extended upward for full thirty feet more. It was as though a huge metal cylinder occupied all the central part of what would otherwise have been a circular room more than thirty feet high and fifty across. In the floor, under this huge cylinder, was a hole some five feet across. Peering through this I observed another room similarly designed, but having its central space occupied by much complicated machinery and tubing.

"That is our sleeping cabin," said Haworth. "This up here is the navigation room."

"And all this?" asked Mason, pointing at the cylinder overhead.

"That is our combined pump and refrigerating plant, for liquid oxygen can only be kept under intensely low temperatures. It is placed in this cabin for the sake of availability. But the center of the room is valueless, anyway. You see, when we are under way with full speed up and the engines silent, we become a free-falling body. There is no gravity. Incidentally, it is the most sickening sensation in the world or out of it. I know, for I have felt it.

"So I designed this ship to revolve as it travels—like a rifle bullet. The rotation causes everything to fall toward the outside—centrifugal force, you know. The faster the ship revolves, the greater is the pressure which acts as an effective substitute for gravity. But, as you can figure for yourselves, that would make these walls seem to be floors. You will find yourself in a sort of gigantic revolving squirrel cage. You can walk around it in a hundred steps and be back where you started. If you were here, Bigelow, and Mason upside down on the far wall there, you would each seem to look 'up' and see the other standing head down from the 'ceiling'!"

Mason called from the hole in the floor, through which he was peering on hands and knees: "And so this is where we sleep?"

Haworth lay down beside him. Four cots were suspended from pivoting supports, so as to always hang in a horizontal position. Interesting-looking apparatus and cabinets and lockers could be seen here and there on the walls and set into the floor.

"Food and rest department," explained Haworth. "Everything has been boiled down to the lightest possible weight, but without undue skimping. I flatter myself that there is provision for every comfort aboard. All of it is in that room."

"Books?" asked I.

"I've solved that problem with the Encyclopedia Britannica. It's out of sight behind that water tank."

"Drinks?" suggested Mason.

"Of course," said Haworth. "Beer and wine take up too much room, but there are whiskey, brandy and rum. For food we have a large refrigerator and can feast on fresh meat and eggs the whole trip. But plenty of canned food is packed away, just in case it is needed."

The mention of food reminded us that we were hungry and we made our way back to the vestibule. Haworth made us wait while he shut the metal door behind us.

"Test conditions," he explained. "Ever since she was finished I have kept artificial atmosphere going in her. In actual operation the outer door of this air-lock entrance would be closed as well."

"You mean that inside there we were breathing artificial air?"

"Certainly. Why do you ask?"

"Because it was fresh and pure. How long has the cabin been hermetically sealed?"

"More than twelve months. Oh, it is thoroughly tested. We shall not perish from lack of atmosphere, I promise you."

We climbed down the metal rungs. In the gloom of the hangar the vessel rose enormous—suggestive. I realized more and more what was portending and my enthusiasm mounted with every step back to Haworth's house.

After dinner we sat in a huge library and smoked and drank pre-prohibition nectar. "If we were to go to the moon," said Haworth, "we would have to wear diving-suits to walk around on the ground—because there's no atmosphere on the moon."

"Even on Mars," said Mason, "there's so little air that we would have to wear an oxygen helmet."

"Now on Venus . . ."

"But seriously," I put in. "There's more than a quarter million miles of space between us and the moon. Mars or Venus are several hundred times as far. Why not at least start with the moon? Surely that is enough of a trip! Later on, perhaps . . ."

But Haworth interrupted. "Distance makes little difference. Only the additional time involved in accomplishing it. To reach the moon, the *Asteroid* would have to travel about seven miles a second as it left our atmosphere. She would pick up that speed in the first ten minutes of travel. After that we would shut off the engines and coast along to our destination—whatever it might be. The moon would require a few days coasting—Mars would take a few months."

"Coast along for a few months!"

"Why of course!" put in Mason. "There is no air to resist the motion. Gravity grows steadily slighter and seven miles a second is just fast enough so that the pull of gravity would never stop our vessel entirely. On she would go through space, her progress getting slower and slower, but never ceasing."

I was by now nodding my agreement. Of course! The Earth itself, was she not just coasting along around the sun? She had been doing so for millions of years, making a steady eighteen miles a second. I simply had not thought of it that way.

"Now Venus," Mason was saying, "is the one planet nearest the Earth both in position and in size. It has a very dense atmosphere indeed. Its surface is completely hidden behind the clouds, which would temper the great heat of the sun, for the planet is closer to the sun than is the Earth. In all the heavens, this is the one planet, so far as we know, where it is at least possible for man to live a natural life—untrammeled by pressure suits and cumbrous aids to breathing. The moon is a barren waste. Mars—just possibly Mars might be barely habitable by a race of super-mountaineers, used to the thin air. But Venus is where we should first point our flight!"

"But," said Haworth, "there are other factors besides atmosphere. Take temperature, for instance. Some astronomers say that Venus keeps one face always toward the sun and the other always toward outer space. If that were so, then the former would be boiling hot and the latter very cold."

MASON nodded, as one who meets an expected obstacle. "The latest tests show definitely that the dark side of Venus radiates heat. Now if this dark side never turned itself to the rays of the sun it could not be in the least warm, for even a dense atmosphere could not prevent it cooling in the course of ages. Besides, if we believe the atmosphere will prove too warm, we can always land near the North or South Poles of Venus and proceed from there toward the equator until, or unless, the temperature becomes unbearable."

A great deal more was said on both sides. But we ended our evening's discussion with a toast to our determined goal.

"To Venus!"

What was more important to my peace of mind, Haworth came out frankly and simply. Omitting nothing, he told us his entire story of the conception and building of the *Asteroid*. To my mind, he presented himself as a sane and sober worker, thoroughly grounded in his subject. My own knowledge of engineering was quite insufficient to determine the practicability of our enterprise. I was forced to rely on Haworth's integrity. But by the end of that evening I had quite determined to trust my life to his obvious skill and knowledge.

This is hardly the time or place for a resumé of his life. Only his extreme reticence about his affairs in public persuades me to mention the highlights in very brief fashion:

Bereft suddenly of his parents and embarrassed with unwanted millions, he had retired to his Connecticut estate and nursed his grief in solitude. He determined to continue his studies and had a superb laboratory built for his experiments. Month after month he worked methodically and patiently, making minor discoveries in several fields of knowledge. Then he evolved a theory for control of liquid fuels in rocket space ships—a subject that had, it appeared, always fascinated him. He applied his entire faculties to the problem and spared neither effort nor expense. No less than twelve very expensive models had been built and rejected, one after the other before the design for the *Asteroid* was tried.

He had endeavored to maintain as much secrecy as possible—not only from policy, but for fear of ridicule, to which he had thoughtlessly exposed himself once or twice. To this end, such workmen and technical assistants as he had needed had been carefully selected and employed to reside permanently on the estate, which was well guarded, as we had discovered on our first brief visit.

With the completion of the *Asteroid* herself, test flights (chiefly by night) had been made at low speeds, comparatively speaking. Haworth had used the lake both for starting and landing his ship, which, indeed, could not land its great tonnage safely on any other medium than water. He told us of his first trip without emotion, describing his sensations in cold medical terms and couching his language with so much quiet reserve that the enthusiasm he might justly have expressed, lodged itself in his hearers. Here was a man, I felt, whom I could trust to proceed with sanity and caution. Mason, I could sense, shared my feelings.

Whether it was the wine we drank, or the heady nature of our discussion and plans, I do not know, but I lay for hours on Haworth's guest bed, clad in his pajamas laid out for me by his valet, unable to sleep. My head was in a whirl of excitement.

I could not help wondering, as I lay reflecting upon the happenings of the day, just why three normal human beings should be so glad of an opportunity to leave their native planet. There was no slightest question but that we were glad. I mused upon this lure of the undiscovered. What was this motive of sheer curiosity that drove men to all sorts of unexplainable actions? We had perhaps inherited it from our Simian ancestors, for it was as natural as breathing.

Why had Columbus voyaged to the Americas? Was it purely an attempt to reach the Indies, or had the divine urge driven him on? Why was Marco Polo not content with his native Venice? Why were Englishmen, though professing an overpowering love for their little island, such inveterate wanderers?

On the one hand, I reflected, a thrilling plunge into the abyss, perhaps to end in oblivion, unknown to the world; or perhaps to result in fame and glory for us all, with the fine thrill of achievement thrown in. But on the other hand: the comforts and convenience of our present life. Soft beds! An instant satisfaction of our whims through the mechanism of modern civilization! An assurance of safety! Today as I write this I cannot see but that the latter picture was the alluring one. But on that night it seemed to me the very antithesis of everything worthwhile. Drab and dull days and nights; old age slowly creeping upon me; desire and zest burning out, year by year, until the dried-up shell of the man loves life no longer. The prospect seemed quite insupportable. Change and adventure had been thrown in my path by fortunate chance. Now it was here, it seemed absolutely essential to existence.

What might be the results of our expedition, supposing it to be successful? The effect would be enormous. As Europe in the earthly sixteenth century awakened from a long sleep, and brave deeds and high adventure strutted the stage of life—so upon our return would the whole world wake to new possibilities and still wider vistas. But foremost of all was the thought that I, Stephen Bigelow, was to be the naturalist on an expedition to Venus. The first studies ever made of life as it might be found on another planet! Of all the paradises which I could imagine, what could be more enticing?

Fame, success and (above all) interesting, vital, absorbing work! The risks—pshaw! For such a reward what were risks? After all, a trip to the Gobi desert or to the jungles of Africa was not without its risks. Everything worth doing entailed a hazard of some sort. I fell asleep and dreamed that I was being greeted at New York upon my return. Thousands of policemen on motorcycles escorted me up Broadway and the people all cheered and threw confetti.

The next morning was Sunday and after breakfast Mason asked for three things: an astronomical almanac, some writing materials, and a little privacy. Haworth had some business to attend to and I wandered by myself down to the lake. I followed the shore and, rounding a wooded headland, came up a scene of exceeding activity. A dozen men stood about a huge silver vessel some three hundred feet in length and more than a hundred feet in diameter. It lay in a cradle of wooden spars and frames. Behind it was a low building of brick with smoke issuing from a tall chimney. There was no noise except for a rhythmic thump and clang which issued from the building and an occasional voice calling for "Bill."

I walked around the vessel and perceived in one end a huge circular opening, evidently intended to house the *Asteroid*. The other extremity flared out in smooth flanges which were the exhaust tubes. I peered up one of these. It was about a foot in diameter. I could see only a short distance into the dark interior of the vessel.

BILL came to my side. "Isn't she a pretty job?" he asked. "We're filling her tanks with gas and liquid oxygen now. Inside her the refrigerating pumps are working away to keep the oxygen liquid, but you can't

hear them out here. I'm going to test the ignition. Want to see it?"

I did, of course. Bill called to the men and everyone left the vicinity of the exhaust end of the ship. Bill took me into the brick building and walked up to a series of dials and levers against one wall.

"We have everything connected up in the workshop here. When the *Asteroid* is fitted in her, the controls will be in the navigating cabin, naturally enough. Now I'm going to give her just enough fuel to stir her slightly."

I looked out the doorway at the ship. The exhaust tubes, I noticed, all faced the lake. Suddenly a deafening roar broke out like thunder. A fierce blast of flame licked out far over the lake and then vanished. The huge hull moved a few inches in her wooden cradle and was still again.

"Everything fine," remarked Bill in the startling silence. "But I'll have to scrape the spark points in the lower port sector. It seemed to me they lagged just a little bit."

I left them at it and walked back toward the hangar, feeling more than a little thoughtful. Haworth was in the shed when I arrived. It was lunch time, he announced, and we proceeded back to the house.

Mason was looking for us. "If we want to start this year," he said, "we had better get busy. As nearly as I can see we should plan to leave about May 26th to get the full benefit of the position of Venus in her orbit."

"But," I objected, "that leaves us only four weeks."

"Fine!" approved Haworth. "We won't have to wait so long."

Mason and I left after lunch. Haworth sent his car in with us. We reached our apartment and devoted the rest of the day and evening to our personal preparations. For myself, these consisted largely in a list of people to see and things to do in the next few days. Cameras and film, compact folding specimen boxes, a few indispensible books and instruments—all of which I already possessed. The following day I had to make arrangements about leaving the paper in charge of my quite capable assistant, Jackson. Beyond that, I reflected, there was really nothing absolutely essential.

I shall omit the ordinary detail of the next few days. On Wednesday night we packed the last of our things and left the apartment for the last time. Mason told me that he had seen his department head that Monday.

"Friedland took it all right. The term is practically through, anyway, and I've been hinting all winter that I might take next year sabbatical. But he wanted to know where I was going . . ."

I nodded. The owner of my paper had been curious, as well. I had been forced to tell him outright that my destination was a secret.

"But, Mason, I did tell him this much—that on my return I hoped to have some photographs that would increase the circulation of *Lens and Bellows* more in a week than it had grown during the last ten years! What did you tell Friedland?"

"I said that traveling at thirty miles an hour it would take more than one hundred years for me to arrive; but that, if I lived, I would go there and back in less than a year!"

I laughed. "And he?"

"Threw up his hands and told me to be off!"

We went out to Connecticut that evening so as to be ready the next morning to commence preparations in earnest. Mason was already at breakfast when I went down stairs after a good sleep. He hurried his meal and rushed off to the library. There was, he said, an enormous amount of calculating to be done before we would know where to aim for and when.

"If we can be ready by the 26th of May I can save a great deal of calculating, for it happens that Bisset and Schwartz took that particular date in their book for figuring the relative positions of Venus and Earth. It will save me several solid days of work, and I will need the saving."

As a matter of fact, we saw little or nothing of him from that time on. He had ordered three calculating machines and Haworth had hired him a small staff of assistants. The library hummed with activity. They even went to the length of having their noon meal brought in to them there.

I went over my equipment with Haworth and asked about weapons. He had thought of them already. He showed me the arsenal. He had decided on .32 repeating rifles firing both explosive and solid shells.

"These, plus one portable machine gun (a Lewis) for emergencies, ought to take care of us."

Then there were hatchets, knives, Colt automatics and even a store of tear-gas bombs. He glanced over my cameras and told me I would find better ones already on board. In fact, I could suggest nothing that he had not already thought of and provided for. I finally did add to the equipment certain items of specimen cases, jars of formaldehyde and a powerful and compact microscope. Haworth weighed this in his hand reflectively, but handed it back without comment.

Armed with a detailed plan of the control cabin, I prowled about in the nose of the *Asteroid* marveling at the completeness and quality of her fittings. I spent several days familiarizing myself with everything.

Then Haworth decided the *Asteroid* was several hundred pounds overweight and we spent a hectic two days cutting down on the equipment. My microscope went into the discard with other things. Chiefly these were spare space suits. He left just one suit for each of us. They were much like diving suits, having a metal helmet and heavy rubber body designed to be pumped full of air at fifteen pounds per square inch pressure. They would be essential should we have to leave the ship when she was not in suitable atmosphere—either on earth or on Venus. And when on Venus they might be needed, for, while there is a dense atmosphere, yet it might prove poisonous.

The last week, the oxygen fuel pumps were put in operation to replenish the *Asteroid's* tanks. A small mountain of gas cylinders was brought in trucks for this purpose and piled outside the shed. Then the water tank had to be filled with fresh water and the air conditioning apparatus tested and refilled with new chemicals. The third step, down the shore of the lake, had been completely fueled by now and its pumps seemed to be keeping the oxygen liquid without too much loss. The next problem was to launch it and fit the *Asteroid* in the hole designed to accommodate her—ready for the final flight.

But, as Haworth pointed out, if we wanted to make a final test flight of the *Asteroid*, we would have to do it before she was fitted to the third step. Mason, when routed out from his figuring, said he didn't care about a test—he would trust all that to Haworth. But Haworth insisted.

"Suppose something happened to me, old man," he argued. "You must know every control on the ship—you particularly, for Bigelow here is not mechanically-minded."

Mason gave in at that. Another twenty-four hours, he said, and his figures would be finished. That would still give us two days before the staring hour. He plunged back into the clatter and count of his computators.

CHAPTER IV

"On to Venus"

THE test was on May 24th—a fine clear day. As we walked over to the hangar I drew in deep lungsful of air and threw my head back. It was one of those days when a few clouds drift like cotton wool in a smiling sky. But the sky had a new meaning for me now and the clouds were intimate things we should soon meet and pass. Haworth climbed at once up the ladder and out of sight, but Mason and myself walked around the *Asteroid* in the gloom of the shed and I saw Mason put out his hand and pat the cool metal hull as if to reassure himself. Then we went up, Mason first, and into the air-lock.

Haworth was below in the living cabin. He called up to us: "Hurry along, you chaps! We start right away."

"But how can we start from the shed here?" I asked, peering over the edge of the hole at him.

"Top swings back. Bill's tending to that now. Come on down—but seal up that air-lock first."

Mason shut the vestibule door and turned the long handle that sealed it hermetically. We climbed down and got into the swinging cots with some difficulty, aided near the end of our climb by Haworth's pointing out that there were rungs on the water tank.

"Just a moment, Haworth," Mason said. "It's easy enough to get up in the air, but how do you land the thing?"

"We have wings. This lever here projects short stubby wings out of the side of the *Asteroid*. Didn't I show them to you? We use the wings just as an airplane does—though we have to land pretty fast, of course. But the lake's big enough. I always come down facing southeast. In case anything went wrong I could always turn on the power again and shoot over to Long Island Sound. But I haven't had to startle the natives there yet and I hope I won't have to this time."

The water tank extended along beside the three cots and on it were set three simple levers—duplicate controls—and a series of dials were visible on the hull wall to indicate altitude, direction and speed. The ship was navigable, of course, without any reference to outside observation. Indeed it would have been difficult to design a window with sufficient structural strength. I will later

Mason also looked about him and gave a great bound into the air. He struck his back against the tank overhead.

(*Illustration by Paul*)

describe, among other apparatus, our periscope-telescope which enabled us to take observations en route.

But we were by now strapped in our cots and Haworth's hand was on the starting lever. He looked inquiringly at us.

"There's no shock, you know. The pressure isn't very great, except at full acceleration. These cots are mainly provided in case of an upset—and for sleeping in, naturally. All set? Here goes!"

He pulled the lever and for a second nothing appeared to happen. I had a panicky feeling that the whole thing was a hoax. In that second I realized how much I actually desired to make the trip. Then the ship quivered and swayed very slightly. I was pushed down in my cot the way one is sometimes jerked back into an automobile seat when the driver suddenly steps on the gas. Only I stayed pushed down. I waited breathlessly.

Haworth's voice startled me:

"Look at the altitude dial!"

I blinked disbelievingly, for it read 2000 feet and the hand was sweeping up faster and faster as I stared. It was shaped like a clock—one hand set for feet and one for miles. Now we were two miles up! Now ten—twenty—a hundred! The air-speed indicator stood at one mile a second!

"I'm going to shut off the power," announced our pilot. "Just to show you what it feels like, I won't start the rotator for a few seconds. Hold tight now!"

The speed was almost two miles a second and the height something over two hundred miles when he pushed back the lever. Then and there I lost my breakfast. I have been down a fast toboggan slide and know what it means to "leave your stomach in the air." This was many times worse. My ears buzzed and my head swam. There was a sickening sensation of falling and I clutched my cot as hard as I could, trying to recover the sense of pressure. Presently I felt better. Not altogether right, but better. I felt light-headed and blown-up like a balloon. Haworth was apologizing profusely.

"I didn't dream it would take you that way. It just made me dizzy, not sick at all. How are you, Mason?"

"All right now," replied my friend, "but don't do that again if you value your cuticle!"

And then I noticed that the water-tank was above me—not beside me. The hull wall, with its instruments, had somehow turned into a floor. What was happening?

"Your weight is now due to centrifugal force instead of gravity," said Haworth, who saw my puzzled glance.

Mason had figured beforehand that at our speed we would have five minutes to ourselves before the ship lost its headway and would require our attention for a return to earth. I unstrapped myself and stood shakily on my feet.

Mason also looked about him and suddenly gave a great bound into the air. He struck his back against the tank overhead. While he swore loudly, I chartly essayed a few steps and found myself light as a feather. I have since estimated our weight at about six earthly pounds each. On the real trip, later on, we increased this by making a faster rotation of the ship. Of course, the faster the ship spun, the greater the centrifugal force and the greater our sense of weight. So exactly, in fact, does this force imitate the observable phenomena of gravity, that it might suggest to an inquiring mind a possible clue for the solution of that enigma of nature. Is gravity really akin to magnetism after all?

We walked through into what was now the adjoining room. Haworth, who had preceded us, was staring into the periscope glass and turning knobs eagerly.

"We must be pointing away from the earth," he said. "I can't locate her anywhere." He set in motion the ship's gyroscope and I noticed the direction pointer swing around until it pointed straight toward the nose of the ship.

"Here she is!" cried Mason, who had joined him. I came up and looked down at the glass where I saw a great rounded section of my native land. Clouds obscured much of Virginia, but I could make out Cape Cod with great detail, standing out into a Lilliputian ocean.

Our landing maneuvers now occupied our immediate attention. The speed we had acquired was less than two miles a second and to attain this we had partially exhausted the fuel contents of only one step of our ship. It had not been necessary to jettison any of the structure, as it would have been had a still higher speed been required.*

HAWORTH now projected our wings and Mason maneuvered the periscope to keep our objective in view. Gradually the picture below grew larger and finally, instead of being rounded, the landscape flattened out and the edges seemed to curl up. Details appeared in the scene beneath us and suddenly began to move sideways.

"We're flattening out," said our leader quietly. "I want you to watch the altimeter closely, Bigelow. You, Mason, get located on that periscope and keep it pointed right!"

I was somehow not alarmed in the least. I stood leaning against the water tank. Haworth had to turn on the power for a moment once or twice and used the directional rockets half a dozen times. That was all. I watched the altitude indicator creep down again to a mile; to a thousand feet. Then I glanced at the periscope glass. There were the familiar Connecticut hills sweeping by at a great rate. I glanced at the air-speed indicator, which now showed two hundred miles an hour.

"Hold tight!" called Haworth and in the glass I saw suddenly at close range a gleam of water. There was a blue and white splash and my knees gave way beneath me as the ship lurched, rolled a few seconds and started turning. Then they gave way completely, for the floor turned up sideways and became the sidewall of our chamber once again. I fell heavily against the partition, now beneath me. My companions had held on and, as I scrambled to my feet, they asked anxiously if I had been hurt. Fortunately, I had not.

There was a collapsible canvas boat in the ship's supplies and we lowered this to the water's surface and Mason climbed down and got it opened out and afloat on the water. Then we all got in and he rowed us to shore.

Bill and his crew met us. "Quick trip, Mr. Haworth," he said. And I could not believe my eyes when my watch showed ten o'clock! We had been gone altogether twenty-five minutes.

That morning we rested up at the house, but in the afternoon Mason announced that our starting hour was 4:30 on the 26th and he was going to check all the figures he had time for and as often as he could. Whereupon he vanished into the library once more.

Haworth and I went down to supervise the assembly of the *Asteroid* into the first step. By the time we got there it was nearly finished. The huge step had been launched into the waters of the lake and floated low and heavy. As we watched, she settled lower still and finally disappeared beneath the surface.

"Good Lord! What is the matter?"

"Wait and see."

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*I might mention that from each step protrudes a rudimentary fin from which can be pushed out short wings, one set of wings for each of the three steps in the complete ship. The projecting power is furnished by the pumps and a small wheel in the control room regulates the whole system.

They were towing up the *Asteroid*. Men were working over the sunken hull and I now observed several large hose lines led from the depths up to an attending scow on which was some pumping machinery. The *Asteroid* was carefully placed just over the spot where the first step had sunk and men with air-lines extending over the water to the shore rowed about, fastening them here and there.

When all was in place, Bill stood on the scow and waved his arm twice. Slowly the *Asteroid* settled. Just before she, in turn, disappeared, she halted and began to rise slowly.

Haworth and I had taken a small boat and rowed out to the scene of activities. The work was stopped while he made an inspection. Finally he approved of everything and the air was once more forced into containers in the step below the water. I now perceived the intent of the operations and admired it hugely. In half an hour the step had risen above the surface. Half-swallowed in her bow cavity was the *Asteroid*. The complete three-step space ship floated on the water, ready for the final fueling.

Haworth had calculated it would be easier to fuel the vessel on the lake, rather than tow her to shore again. The first step and the third step were already fully loaded with gas and liquid oxygen and there remained only the second step, which we had nearly exhausted of fuel in making our test trip. We departed, leaving this final work in charge of the men. Half a dozen scows loaded with oxygen cylinders and an emergency liquefying refrigerator were busily at work by the time we had rowed to shore and turned to give the vessel a departing glance.

This work continued on the 25th. That day seemed made up of a thousand hours, each hour some years in length! Haworth was busy with a man who had come out from the city. Making his will, I presumed, though he never told me. I could not tear myself away from the vessel and sat by the hour watching Bill make the final arrangements. The men were all leaving that morning, he said.

"Mr. Haworth thinks it just as well to have no witnesses, I guess."

"But don't they know where we are going?"

"No," said Bill, "and probably wouldn't care if they did."

"But you will see us off?"

Bill flushed slightly. He nodded in silence. Finally he spoke.

"I'm married."

He stared unseeingly across the lake.

"If I weren't . . . but I am, and that's that!"

I could not help reflecting that Haworth carried the secrecy of the thing to almost unnecessary lengths. Was he planning to tell no one of our expedition until our return?

Evening came at last and the three of us dined soberly enough and smoked in sober meditation for a few hours before turning in.

"Are you both sure you have no friends or relatives you wish notified in case we . . . don't return?"

"I have an aunt," said Mason. "But I don't know her address."

Haworth laughed affectedly.

We shook hands as we parted for the night.

I HAD a wretched sleep. I thought of all the things that might have happened to us the day before. We had been too lucky for words, that was all! The least thing wrong, and it would have been all over with us. And suppose we had been landing on Venus—dense fog; no way of telling how close to land we were; no assurance that there was any water to come down on! And on the trip, just suppose we hit one fair-sized meteorite traveling at cosmic speed! I thought of how a bullet made of paper had been shot through a sheet of tin by some experimenter years ago. We would be the sheet of tin!

Only the thought of ridicule stopped me from backing out altogether the next morning. Mason afterwards confessed that it was much the same with him. He had calculated all night our chances of a successful return and, what with a nightmare or two to affect his figures, the answer came out exactly 480,972,635 chances to 1! Haworth apparently slept like a log.

I was not in too great a hurry that morning, I fear. Haworth kept trying to make me move faster but I took my time. We were really all ready by three in the afternoon, but I kept "forgetting" things we would be sure to need. The last time I thought of cards and a cribbage board. I'm glad I thought of them, but he said it was the last straw and dragged me down to the boat where Mason was sitting, staring silently at the water. We rowed out to the vessel and Haworth and I climbed up the ladder, leaving Mason to fold up the boat. When we got to the air-lock we heard a cry from below and looked down.

Mason had fallen into the lake and was climbing up the rungs dripping water and swearing. So we pulled the boat up as it was and folded it together in the vestibule, while Mason stamped around shedding wet clothes and climbed around down in the living cabin, trying to find dry ones.

It was a few minutes past four when we were all in our cots. Our calculations had been arranged for a start at exactly four-thirty, so we had to wait twenty minutes. I had to fight myself hard every one of the twenty to keep myself from unstrapping my legs and getting down that ladder to solid earth again. It was warm in the cabin, but not warm enough to account for the perspiration that poured over me!

"Ready!" said Haworth warningly.

And then for a certainty I knew I could not stick it out. But as I started to get up on one elbow and had opened my mouth, in fact, to call to Haworth, he pulled the lever. I was forced back against the cot. We had started!

Our course, once calculated, was very simple to follow. Given an exact starting time, all that was necessary at first was to aim straight for a definite portion of the skies. We aimed for the star Kappa in Leo. It was Mason's job to keep the periscope glass focussed on this point exactly at the start. Every second of travel he had to veer away from it by fifteen seconds of arc, to allow for the rotation of the earth. All other factors were taken into consideration when fixing the original aiming point. Haworth kept the ship lined up with the periscope direction indicator. I did what Haworth told me from time to time. As all our instruments and controls, even the periscope glass, were duplicated in our living quarters, all this could easily be done from our cots.

For eight minutes we lay there. Every little while Mason would exclaim "There she goes!" and twist frantically at his controls.

"North declination two minutes of arc!" Haworth called out.

"Then it would be "East by north a second!" and once it was "four minutes south! Quick! Five!—ah, there she comes!" while Mason swore and twisted away.

Then abruptly Haworth pushed up the power lever and pulled it back again.

"There goes the first step!" he said grimly.

So far the power flight had been made almost in silence. But when the first step was dropped away, the steady pres-

sure we felt became realized in its terrific, powerful force, for the sound of the exhaust suddenly increased to very audible proportions. It filled me with its message of vast, blasting power. When it, in turn, suddenly ceased, I glanced at Haworth in surprise. He was advancing the rotating lever and I scarcely felt the dizziness. Our cots swung around at ninety degrees and the walls became our floor once more.

"That's that!" I said and forced a painful smile.

"You don't have to watch that periscope any longer," said he to Mason. Power's off, you know."

Mason sat up in his cot frowning slightly.

"It doesn't seem right," he objected, "to be hurtling through space at seven miles a second without anyone looking to see where we're going!"

Haworth laughed, his black whiskers framing a jovial cavern. A great load seemed lifted from his mind.

"No power, no steering. We have already steered her! Now we are coasting to a stop. We'll coast for about three months, and there's only one thing we can do about it. Can any bright child tell me what that is?"

But I thought I knew the answer to that, and I was first at the liquor closet. Whiskey straight, and we all needed it!

How calmly they take it, you exclaim. Well, I don't know about Mason and Haworth but, speaking for myself, the above account leaves out a great deal. To be frank, I was so nervous and alarmed during the start that I scarcely felt my discomfort. After a minute or two the steady pressure affected my thoughts to the complete exclusion of other feeling. I found it difficult to draw breath, due, I suppose, to the increased weight of my body, which during power flight was some four times as heavy as its normal one hundred and eighty pounds. My eyelids were almost too heavy to support themselves and I noticed that Mason and Haworth were both peering at their instruments through half-closed lids.

While the throb and sound of power held the ship there was nothing absolutely terrifying or strange about it all. That sensation came when the rocket motors were shut off. The stillness was like a blow. I stood beside my cot and contemplated the dials before me. The altitudinometer was no longer working, for we had left the atmosphere of the earth! Its dial had marked only as high as 250 miles and there it remained, although I knew we must be thousands of miles away from our native land by this time.

The speedometer (indicating the speed of air past our hull) had of course dropped to zero, for there was no longer any air to rush past us. Mason and Haworth had gone into the pump-room and were busy checking our course with Mason's careful figures. I was alone in the cabin. A sudden panic came upon me as I realized our position. We were lost in absolute space. I realized that now there could be no turning back. Our departure was final. We must go on to Venus—a strange and perhaps terrible adventure.

CHAPTER V

Tense Moments

THEN the whine of the ventilator fan broke the silence. One of my companions must have turned it on to set the atmospheric conditioner in operation. This droning monotony remained with us for the next three months. It frequently affected our nerves, yet we all agreed that it was preferable to the absolute silence that otherwise would have pervaded our vessel.

It changed my train of thought entirely (possibly the stimulant I had just taken helped) and I realized once more the thrill of adventure. I had not felt this so strongly since Haworth's first announcement of the purpose of his expedition. I remember saying to myself: "Why, you stupid oaf, you're going to Venus!" And a new exhilaration came upon me and carried me into the next room to join my companions. I wanted all of a sudden to see where we were; to look out on the illimitable space in which we traveled—to gaze longingly at our shining goal and look back exultantly at the work-a-day world we had left!

I rushed over to the glass to peer into the periscope. It magnified some twenty diameters and happened to be pointed into a starry region which included a small section of the Milky Way. Never with earthly language can I describe what it looked like. The stars were smaller than we see them from the Earth, for they were not magnified by two hundred miles of atmosphere. But their brightness was increased a thousand-fold. Like jewels on black velvet they lay, each one a pin-point of blinding brilliance. And so thick and deep did they carpet the cosmos as to draw a gasp of delight from me.

I knew how to turn the ship and periscope from watching Haworth on the test flight and I spent a solid hour then and there bringing sight after sight into view. One of the first things I looked for was in Orion—the dark "horsehead" nebula near Zeta of that constellation. But I found it appeared not very different from photographs I had seen on earth. My vision was clearer, of course, and I could see without any doubt that the dark spot was no "hole in space", but a real- opaque object from behind which light of distant stars streamed revealingly. I called Mason over to watch it with me and he did so, withdrawing from the instrument at last with visible emotion.

But the sight of the receding Earth was of the greatest beauty and interest to me. It was as if my heart-strings were attached to it and almost seemed to snap with the strain of separation. Tears came to my eyes. The globe was almost fully illuminated by the sun and both North and South America lay in full view. In fact not all the surface could be seen in the field of the instrument at once—although this was quite possible a day or two later.

"Well," said Haworth, munching a biscuit and sipping a glass of whiskey soda. "They will be just about getting the news at the Associated Press offices by now."

At this surprising announcement both Mason and myself turned to stare at our leader.

He had the grace to blush.

"No use keeping the secret once we've started," he added in explanation. "Let 'em laugh if they can now! We're in space!"

"What did you do?"

"Sent the Associated Press a dozen pictures of the *Asteroid* with a brief scientific description and a signed statement of the purpose of our voyage."

"Good Lord!"

"But then, down there . . . !"

I turned again to the glass, as if at that distance I could detect the streets of New York as the newspapers poured out wet from the presses with headlines four inches high. I tried to visualize Chicago's Loop with office workers pouring out that evening to greet the astounding news. But in the glass the Great Lakes were dark blobs on a misty globe and Chicago with its millions an infinitely microscopic phenomenon.

Mason was frowning thoughtfully. "They'll call us madmen, of course."

Then he smiled. "And so we are!"

"When—or if—we get back," said Haworth quietly, "there will be considerable to say on that subject!"

We were wildly excited, all of us—although Haworth did not show it. Mason was like a small boy and full of spirits. I was little better. It was new and strange to have the center of the cabins always "up" and the outside universe in every direction always seem "down." In the pump-room at the partition (formerly the floor at the entrance) there was an eight-foot alley clear of overhead obstruction. One could look up full fifty feet to the ship's hull above. Mason liked this spot. He would run violently "up" the floor until he stood on what seemed to me the "ceiling" and looked down at me, grinning.

"I'm an anthropophagus whose head doth grow between his shoulders," he called. "And you're another!"

Then he leaped violently "down" at me and, weighing about six pounds, as I have said, passed the intervening center of gravity and landed laughingly with both arms around my neck, to save himself from falling to the floor.

We even tried a sort of spatial leap-frog. But this did not turn out to be a success. Mason made a wild leap and struck has head hard against the pump tanks, falling "heavily" to the floor. He was unconscious for ten minutes and only the head of a mathematician, as I pointed out, saved him to posterity. That episode occurred, as it happened, in the first hour of free-falling flight. It sobered us considerably. I suggested we give the ship a greater speed of rotation, in order to increase the gravity and, upon Haworth's agreeing, I turned it on until our spring pound-scale registered seven ounces. At that speed the centrifugal force was almost half as strong as gravity is on earth. My head seemed at once clearer and my body began to feel as if it belonged to me after all.

Haworth had done us rather well in the eating line. There was an electric stove for cooking and we had a large refrigerator full of hundreds of pounds of fresh meat and vegetables. We ate broiled steak and onions our first meal—well washed down, you may be sure. And, as Haworth mentioned proudly, "not a sniff of onion in the ship's sacred air!"

I have promised to describe several other pieces of apparatus and perhaps, while I am in a descriptive mood, I might well do so here. First, our periscope. Up in the nose of the ship is a thick glass lens set in a metal ring whose position is changeable at will from the dials on the periscope glass in the cabin below. Through a simple system of angle lenses, the light rays are brought down a tube, magnified, and led by mirrors to the two observation glasses. The range of observation, or rather the angle of vision, is about 45 degrees in any direction from the line in which the vessel's nose is pointing.

During free-falling flight in space, when it is necessary to keep the ship in rotation, the image seems also to rotate in the periscope glass. But a star at that distance is so minute this does not matter for directional observations. And Haworth had arranged for this when he designed the *Asteroid*. The whole system of lenses occupied the exact center line of the vessel and could be rotated automatically to balance this effect. Occasionally the automatic device did not function in exact time and the image would wobble and blur in the glass, but usually the visibility was satisfactory in the extreme.

When in the atmosphere of the Earth (or of Venus) the wings are protruded and terrestrial gravity is felt. Rotation is then, of course, stopped altogether. And at such times—landing or taking off—when accurate, reliable vision is required, it is present, for the lens-tube is then stationary.

I was puzzled at first to determine how to make observations of the Earth we were leaving. I wanted some photographs. But Haworth, when asked said: "Why not turn the ship's nose back toward the Earth?"

"But we are going to Venus!"

"Well? We don't have to go nose first, do we?"

And he solved the problem very simply by turning the gyroscope control until the receding earth came into view and I got some fine pictures. It is really remarkable how clearly the pictures came out in spite of the many thicknesses of glass intervening between the camera and the object. I attribute this to the crystal-clear space in which we fell—end-first, as it happened!

FALLING! That reminds me of my first sleep on board. It is singular how little sleep one needs in space. This is due, possibly, to the lessened weight. I had four meals before I felt in the least sleepy. (There is no night or day, as you can see for yourself if you think about it). I went to bed and dreamed of falling. Hours and hours I fell. In between these times I wakened and thought of things. I thought of the fallen angel in Milton's poem who fell, twisting and turning in space, for seven days and nights. I could not help thinking how ill I should have been under his circumstances! And then I wondered whether he carried any food or air with him and realized that I must be half asleep to think of such a silly idea. I dreamed some more and woke again.

I thought of Jack London's story about primitive man's racial fear of falling from trees. I wondered if some future super-human would retain in his race heritage this super-fear of cosmic falling.

We had agreed to stand six-hour watches (although there was no real necessity) and I stood five watches in a row before I dared go to sleep again. But when I did finally climb into my cot once more I slept the sleep of one who has mastered space travel. I slept for twenty, solid, blessed hours.

But to finish my descriptions: Air is supplied from the oxygen fuel tanks as we need it. It is purified by a small air-conditioner in the pump-room that sucks it in and spews it out to the tune of a monotonous whine from a wire-caged fan. Heat we have in plenty. One side of the vessel is always exposed to the fierce rays of the sun and we must depend upon pure radiation from the dark side to counteract it. Usually we were uncomfortably warm. Haworth had to keep an auxiliary refrigerator turned on most of the time to get any comfort in the cabins.

Fortunately, all this had been foreseen and, as the total power required to operate refrigerators, electric dynamo for lights and fan and the cooking stove combined was insignificant compared to one second of power flight, there was nothing to worry about. Haworth had figured a fifty per cent safety margin in estimating fuel requirements.

Well, I seem to have covered nearly everything. Oh yes! No baths! We had plenty of water later on, due to our fifty per cent reserve, and could wash our faces and hands as we liked. But at the start we were conserving all we could, and mighty grimy and filthy we were, too, before we had been a month out. At least Mason and Haworth were—fortunately I couldn't see myself. Haworth particularly, with his crop of jet black whiskers, looked uncomely. Mason and myself were (at least nominally) shaven.

And now comes the one part of the voyage best glossed

*He had a clever arrangement for cooking everything inside an airtight metal box. Back of the stove was a square door the exact size of this stove-cover. It was an air-lock leading to the outside of the hull and was for the disposal of garbage—solid, liquid or gaseous. As outside, due to our centrifugal force, was always "down" it was simple to operate, although Mason assured us that offal would follow us through space and when we landed we had better carry umbrellas until the vade-mecum shower had finished'

over. Three months! I wonder if any of you have spent three months in two rooms? Not even putting your head out of a window, mind! It gets tiresome, I can tell you. For the first week or two we were busy enough, Mason in calculating our course all over again and then in calculating our return based upon a two weeks' stay on Venus. After that he calculated sundry things. The most admired was a computation of our chances of being hit by a meteorite. It came out well into the millions. I may say here in regard to this pet bug-a-boo of critics of space travel that we sighted one meteor during our entire trip. It broke up our cribbage tournament for two hours.

"Come quick!" Haworth called from the periscope. "Something out there towards Vega."

We crowded around the glass and watched a black dot grow rapidly larger. It passed within perhaps ten miles of us, we guessed. And if that guess were accurate, it would have been about two-and-twenty feet through.

I, on my part, spent the first ten days busily with my camera. As official camera-man on the ship, I took the Earth about once an hour, I believe, except while I was sleeping. I photographed Mars, Venus, Saturn and Jupiter and would have got Pluto, the outermost planet, but we couldn't locate it in the glass. Oh yes! Mason figured on that too. Took him two days and I aimed exactly where he pointed but could not see a sign of Pluto. I snapped several films in the general direction, however, and it may turn out on the plates when they can be subjected to careful study.

Then to further lengthen my labors, all the films had to be developed and prints made.

Haworth kept busy climbing about the pumps and machinery. No matter how often he had checked a gadget, he seemed always to enjoy doing it once again, "to make sure."

But after the first two weeks photography palled. We were getting so far away from the Earth that there seemed little use in further pictures of the bright little globe—less than half as large as the moon appears on earth. I had taken all the other subjects I could think of.

Mason had made a final calculation bearing on the probable percentage of error in his other calculations! The three of us gravitated mutually toward the cribbage board.

We started a tournament at ten cents a game. About all I remember of the next two months was the fact that I was seventy-six games ahead of Mason and twenty ahead of Haworth. Haworth, in turn, had thirty-seven games more than Mason. That made me champion and I believe I was prouder of that fact than I should have been.

While two of us were playing, the other one would read the Encyclopedia Britannica and it is amusing to note the things one can find in that mine of information. When anyone came across an interesting statement, he would read it aloud to the others.

"Did you know that the Malay race is distinct from the whites, yellows and blacks?" calls Mason. "I always thought they were almost the same as the Chinese, only brown."

And from the next room came the subdued sounds of Haworth snoring, for it was his rest period. There it is. Life on a rocket ship—thrilling journey to a new world!

This may not sound like a serious scientific expedition, but it must be remembered that we were absolutely helpless now to change our fate. We had to amuse ourselves or—do worse, perhaps. Men must laugh, whether on the way to the guillotine or to Venus. And when that last day comes when the freezing world circles uselessly a blackening, heatless sun and the last coal has been burned and the atmosphere freezes in a fine snowfall and the last hope is gone—then men will probably have to be amused just the same.

If, indeed, any men remain on Earth by then. Surely everything worth saving in the human race will be far away and safe on a new world, circling a younger sun! Was it for nothing that we made our expedition?

Scientific expeditions are not always amusing. And in that case trouble ensues, sooner or later. Ask any famous explorer whether he objects to a vein of humor in his men! We three were, I suppose, as nearly harmonious in our tastes and prejudices as would be possible to imagine. The importance of this fact cannot be stressed too much as the long, dull, dayless time ticked by.

HAWORTH'S genuinely interesting ideas could set us afire with enthusiasm and Mason's droll manner and absurd wit, time and again, provoked us to abandoned laughter. I recollect one bad moment only.

Mason had made some amusing remark at which I laughed. Haworth, however, merely frowned impatiently. I could see Mason's cheek grow red as he turned away and sat himself down moodily with a volume of the Encyclopedia. This might have developed trouble then and there, but was interrupted violently by Haworth's discovery of the meteor, mentioned previously.

But we all of us seemed to act and talk unnaturally. A definite sense of nervous strain weighed upon us. I remember how irritated I was because Haworth kept poking about in the living cabin—checking and again checking supplies of food in the refrigerator and testing and examining the cooking apparatus.

Mason was still sensitive in his bearing toward Haworth and when the latter called out to him and asked if he would "hand him the food chart", Mason did not seem to hear. After a minute Haworth came into the pump room where we were sitting and got the chart himself.

"Getting deaf?" he remarked rather bitterly.

And Mason rose and turned his chair about so as to face away from him. There he sat in sullen silence.

Haworth had paused at Mason's action. His face grew almost as black as his beard.

"Will you be so decent as to speak when you're spoken to?" he demanded.

Mason was silent.

"Damn you, Mason!" shouted Haworth, reaching out an arm and seizing the other's shoulder. "Who do you think you are?"

Mason leaped to his feet, tearing loose from Haworth's grasp. He whirled, his eyes blazing. I had seen Mason angry once or twice before and at such times he is usually inarticulate and sullen. He was so now, and stood speechless, glaring at Haworth.

I was aghast. But I was determined to let the thing develop no further. I strode between them.

"The man that says another word is going to be sorry," I announced firmly, "For I'll knock him down!"

I was determined to do so, too. I was physically more than a match for either one of them, as they well knew, but whether this affected the course of events or whether common sense came to them both at the same time, I do not know. Haworth strode off into the next room without a word and Mason sat in his chair once more and appeared to have resumed his reading.

I could feel the skin tighten over my cheek-bones. I felt badly about the quarrel and more than a little irritated at my companions. I wandered over to the air conditioner dials and studied them unseeingly for fully

five minutes, thinking deeply. Then I found myself examining them with casual interest.

The thermometer read 72 degrees Fahrenheit. A sort of barometer recorded absolute air pressure; another dial indicated the moisture content of the air in our cabin; and a fourth showed the electric potential.

I stared at this latter dial in some surprise, for its needle had moved around to the very limit of its ability and, as I recollected, it was supposed to show only a slight elevation above zero.*

Hastily I turned on the power and watched the dial, expecting to see it record an instant lessening of the undesirable effect. But no apparent change was visible for more than half an hour, when I perceived that the needle had withdrawn very slightly.

After a moment's hesitation, I called Haworth's attention to this phenomenon. He came over and looked at the dial in silence a full minute. Then he began to laugh. The needle had dropped quite perceptibly by this time and Haworth's laughter seemed a signal for the tension of my skin to loosen. It cleared the air, so to speak. Mason looked up doubtfully and, evidently embarrassed by his former conduct, did not speak. But Haworth strode over to him.

"Sorry," he said. "It's not anybody's fault, old man The sun has been pouring free electrons into us for days and we have been building up a terrific electric potential. If we were on the earth now, you would see as fine an electric discharge leave this ship as ever left a thunder-cloud!"

It was good to see Mason and Haworth sane once more.

I must say here that our vacuum tubes were not quite powerful enough. We never attained the proper conditions on our whole trip and a certain nervous tension was always present. Fortunately it was slight.

CHAPTER VI

Land at Last!

ABOUT the middle of August, or 77 by the ship's clock (77 days after May 26th that is) we began to get actively interested in Venus. Mason started it by noticing that you could see a little detail in the periscope. I observed it eagerly—a cloudy, muddled kind of a circle two inches across in the glass.

Mason claimed he could see beautiful women in the white cloud mass. After looking for five minutes in mock interest, I suggested you could see anything if you stared until you got spots on your eyes!

But after a few hours Haworth, who had been busy himself at the other periscope glass, straightened up and announced that we were falling at about five miles a second straight onto Venus.

"I've measured the change in degrees of arc subtended by the planet on the glass," he said. "I think you had better check my figures, Mason. I don't think we will have to worry about reducing speed—but we have to do more than *think* on that subject. We must know!"

Actual navigation on a pre-figured course in space is not as complicated as it might seem at first glance. The advance figuring of the course is difficult, true, but once in space it is merely a matter of keeping on it. On a permanent chart of the fixed stars are traced the positions of the planets at various arbitrary periods. If the planet does not show in the periscope against the pattern of stars precisely where it should, then you are off your course. It is immediately apparent how far you err and in which direction.

The remaining dimension depending as it does upon whether your speed is too great or too little must be checked by the apparent diameter of the planet you approach. If, at a given minute, it is too small, then your speed has been insufficient and you must apply power at once. Conversely if it is too large at a calculated moment then you have been going too fast and must turn your ship end to and apply power to retard your speed.

So far our course had been so nearly proper as to warrant practically no manipulation. But our close approach to Venus made it imperative to be more accurate than we had been as to our speed and probable time of arrival. We were slightly behind schedule and five or ten seconds of power was required to overcome this.

It took us ten days to fall.

That was undoubtedly the worst time on the whole trip —that falling. You see, the constant strain was there; and yet beyond calculating our speed every few hours, nothing could be done about it. We would try to read or play cards in the slack moments, but there was always that distracting thought that we were actually falling at great speed to the surface of a new and perhaps inhospitable world. I couldn't sleep more than a few hours at a time.

Venus was by now a glorious sight. Sheer white she gleamed and seemed so near in the periscope that one could almost reach out and seize her. She was in half-phase and the terminator line between light and darkness was pure mother-of-pearl. Soft greens and blues tinged the white side and a royal purple edged the line of night.

One or another of us was constantly at the instrument now, searching eagerly for any signs of a break in the dense cloudy veil. But in vain. We thought, however, that we could detect a definite motion, as though the whole globe were turning before our eyes. Mason became very excited over this and made several calculations. He finally announced that the probable length of the day on Venus was sixty hours.

"Thirty hours solid sleep o'nights, Haworth!"

"I suppose they are agitating for the twenty-hour day down there!"

Of course, we thought of Venus as being "down." We were falling onto her surface, you see. Now and again we realized the speed and vehemence of that falling. I, for one, always stopped looking in the periscope when that feeling came on me. I would pick up a book or get somebody to play cribbage with me, for the thought was not a comforting one!

We went over our apparatus a dozen times every twenty-four hours, I suppose. I know I looked over the guns that often. I got to thinking how many things might happen if we did get safely down on Venus. No telling what sort of beasts might be there. Perhaps there might even be some sort of men or other kind of reasoning being.

We had three Remington repeaters for 32-calibre shells; three Colt automatics using the same sized cartridge; and a demountable machine gun for the same ammunition. There were three double bandoliers, each carrying 200 cartridges. That meant six hundred rounds of hot lead for the "welcoming committee," if any. And there was plenty in reserve in the lockers.

Even ten days must pass if you wait long enough, as the Irishman said. But though we haunted that periscope glass the whole time we could not make out one single detail of the planet below us nor could we see a single thing except white and gray clouds. Venus was now a huge disk filling half the heavens.

It was 23:40—89 when Mason called out suddenly from the glass:

*Haworth had a most ingenious device for controlling this factor of electric potential. A series of large vacuum tubes emitted free electrons, either into the air of our cabins or into outer space, as the necessity might be. This was not automatically controlled, since we had absolutely no knowledge of probable conditions previous to our actual flight.

"Come here quickly! We're almost in the clouds!"

Haworth happened to be in his cot in the other cabin and he leaned over to the duplicate glass beside him and stared a moment.

"Come on in, you two," he shouted. "Landing maneuvers start at once!"

We hurried through to the after cabin and climbed into our cots.

Haworth had protruded our wings in the few seconds' interval and evidently we were already in the rarer outer portions of the atmosphere, for there was a definite pressure toward the nose of the vessel that swung our cots bottoms up that way. Mason was twisting away at the periscope to keep it pointed toward the surface of Venus and Haworth was turning the rudder lever for steering in atmosphere. I glanced at the instrument board and saw that it was again functioning. We appeared to be speeding along at a height of 150 miles, parallel to the surface of the world—but at the fearful speed of six miles a second!

Haworth was quite cool.

"That does it," he said at last. "We should be all right now. We must circle the planet until we lose some of this speed. It will take perhaps seven hours to land. We have to keep wide-awake every second of that time."

Mason, you manage that periscope and keep trying to see some detail. I'll handle the ship."

"And what will I do?"

"Well," put in Mason, smiling but grim-lipped. "What do you think you ought to do about it?"

So I climbed down to the locker and got out drinks for them both.

"She's flying away a bit," I warned Haworth after glancing at the altitudinometer, which now read 175 miles and was slowly climbing.

"I've caught it already. I'm depressing all the wing surfaces to hold her in the atmosphere."

THE dial started to move down again until it reached 120, where it stopped. Then for an hour there was little change. Slowly the altitude dropped and the air-speed indicator with it, as the outside air friction on our hull slowly reduced our speed.

"Free orbit," said Haworth, and he turned the elevator controls the other way. "Now we are navigating just the same as an airplane. Our speed will gradually reduce itself until the wings are required to keep us from falling. From then on it will be simple—merely glide down as slowly as we can and land on the surface."

The next few hours were monotonous. The periscope glass showed nothing but white swirling vapor—a world of fog. The altitude and speed slowly continued to drop.

"Seventy-five miles from the surface," I said, reading the indicator.

"That doesn't mean a thing," said Mason. "Not on Venus. Temperature, air pressure, even the gravity is changed. It was designed for the Earth's atmosphere only. Don't bother with it any more now—we're navigating by direct sight."

His eyes remained, while he spoke, riveted on the glass as if his life depended upon it.

At exactly 6:24 Mason gave an inarticulate cry. I leaned over and saw past his shoulder the glass of the periscope. Sure enough, something dark showed beneath the thinning vapors. Was it land or water?

"This is getting too risky," said Haworth tensely. "I'm afraid if we don't get any visibility in the next few minutes we'll have to call the visit off and put on power again for the return to Earth."

(Mason had laid out a course in case of this eventuality.)

But Mason and I had both seen something that time. About a hundred yards beneath us were the tossing billows of a black and sombre sea!

I glanced at the instruments.

"Speed 300 miles an hour," I called out.

I looked at the glass to see the water rushing up at us. There was a sudden lurch as Haworth put on our emergency retarding rockets and a great splash obscured the screen. The *Asteroid* bounced violently, jerking us roughly in our cots. Then everything seemed to turn topsy-turvy in the cabin and we swung crazily in response. The floors became walls—the walls were now floors.

Everything was still again except for a slight rolling motion of the ship as she rode the waves. We three looked at each other in an awed manner.

"We're there!" said Mason and laughed doubtfully.

My head was in a whirl of emotion—joy and curiosity uppermost. We were on Venus. Beyond the air-lock doors lay the wonders and mysteries of a strange planet.

I was first man out of his cot. I stamped my feet doubtfully, for the full gravity of Venus was pulling now—almost the same as that of Earth. After many weeks of existence at a weight of 80 pounds I now weighed 170. Mason was soon beside me and with a shout of joy fell upon the periscope glass and tried to view the new world outside. But that proved futile. Nothing but steam and spray could be seen. We had been several minutes at the glass when we looked about us and missed Haworth

Then I saw him down at the provision closet. He had set three glasses on the locker and beside each he was methodically setting out bottles! It was an idea to be hailed with enthusiasm and Mason literally fell on his neck. We were enormously excited and the stimulant seemed to have no effect whatsoever upon us. So we continued drinking the apparently harmless fluids until . . . well, speaking for myself, I don't remember when we fell asleep. We had been under severe strain for many hours; our expedition had proved entirely successful; here we were landed on the surface of Venus—all very strong mitigating circumstances, as the lawyers say.

According to the clock we slept seven hours. It seemed less than a minute when Haworth awakened us with that best of all alarm clocks—the smell of bacon and coffee. We rose and squandered some of our hoarded water in a good wash all around and sat down to our meal.

"The next thing, of course," said Haworth, "is to see if we can breathe the atmosphere outside."

I made the trip for testing samples. It meant wearing a diving suit, for we dare not expose ourselves even for an instant to what might have been poisonous gases. I had tried a suit on before leaving the earth, but I was by no means accustomed to wearing it. I felt as if I were drowning when I drew in the air contained in the helmet. (Panicky feeling, rather.) But I was so impatient to rush out that I didn't think of any discomforts this time. Mason unscrewed the inner air-lock door for me and I squeezed into the closed vestibule. The door shut tightly behind me and I opened the outer door.

Through the glass of my helmet I looked over a foggy ocean. The glass was so obscured with steam and spray that I could make out no details. I had two vacuum jars, one for air and one for water. I found it hard climbing down those rungs in my clumsy dress. I reached the surface of the water and broke the neck of the first jar beneath it, the waves licking up at me as I clung there. It certainly looked like ordinary water.

BACK in the vestibule again, I knocked off the neck of the second jar and stoppered it up with the gum Haworth had given me for that purpose. Then I was in-

side and getting out of the cumbrous helmet by myself—Haworth and Mason (selfish brutes!) eagerly rushing the jars to the little built-in laboratory in the pump-room.

By the time I got untangled and over to them they were talking to each other excitedly.

There passed several minutes of tense expectancy.

Suddenly Mason cried out and danced madly about in a circle.

"We can breathe it!" he shouted.

"You can't exactly call it air. There's no nitrogen in it—at least so little as to be not easily detected."

He turned to Haworth excitedly. "Helium!" he explained.

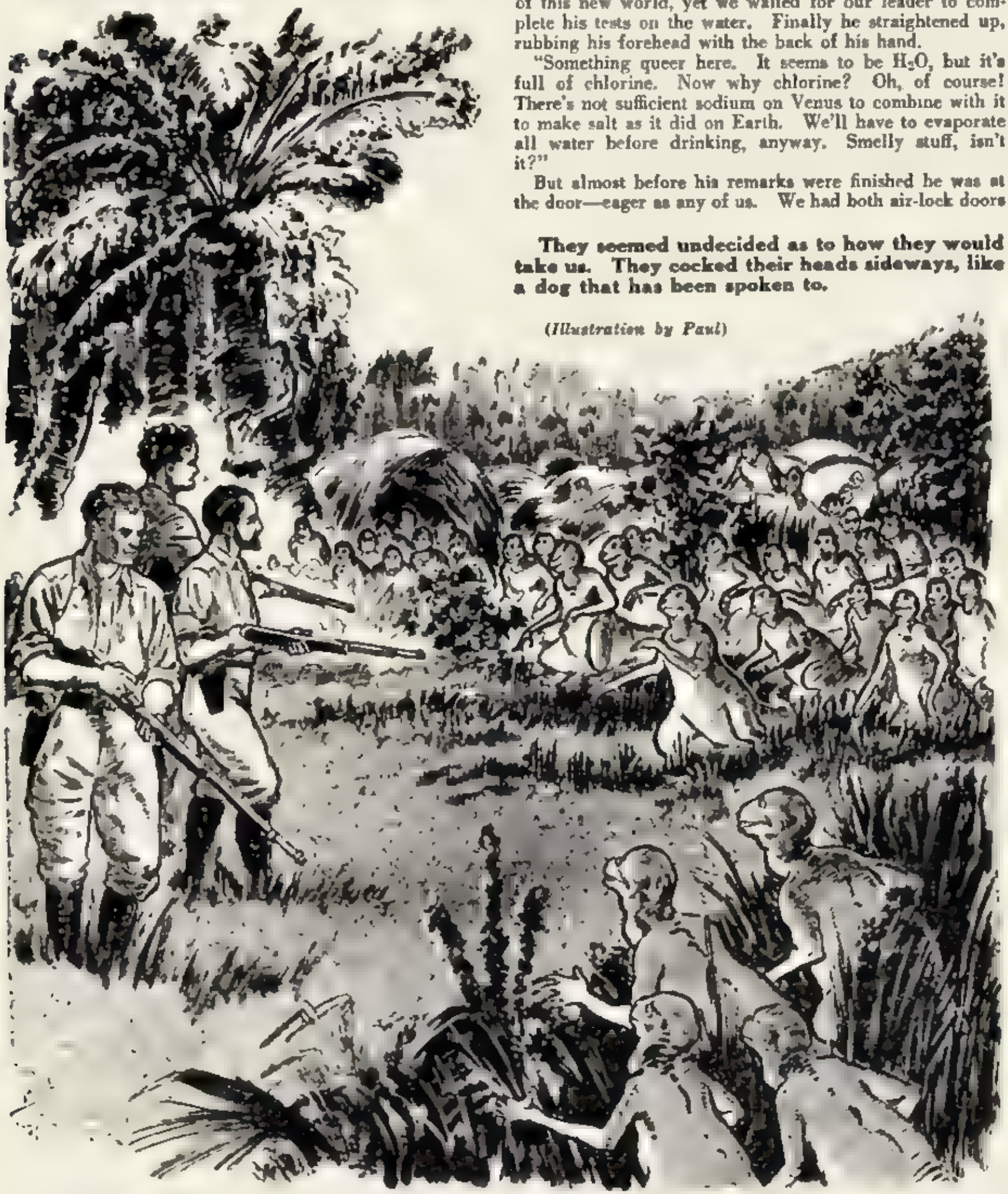
Haworth paused in his own analysis and looked up interested.

"Almost three-quarters helium and the rest oxygen. But it's breathable, just the same—good, life-giving air for all purposes. I'm so certain of it that I don't believe we have to make any more tests!"

Eager as we were to look out and breathe the atmosphere of this new world, yet we waited for our leader to complete his tests on the water. Finally he straightened up, rubbing his forehead with the back of his hand.

"Something queer here. It seems to be H_2O, but it's full of chlorine. Now why chlorine? Oh, of course! There's not sufficient sodium on Venus to combine with it to make salt as it did on Earth. We'll have to evaporate all water before drinking, anyway. Smelly stuff, isn't it?"

But almost before his remarks were finished he was at the door—eager as any of us. We had both air-lock doors



They seemed undecided as to how they would take us. They cocked their heads sideways, like a dog that has been spoken to.

(Illustration by Paul)

open within ten seconds and looked out over the ocean. We breathed recklessly of the air. The breeze was deliciously fresh, full of the taint of chlorine as it was. We could not see far at first for the swirling steam. Water in all directions—not blue or green, but black and rather depressing. The motion and sound of the waves were tremendously exhilarating after our months of utter stillness.

"If this fog would only lift, perhaps we could see something!"

Minute after minute went by. I stared with beating heart at the seascape, such of it as we could see through the whitish vapor. It *was* another world. The feel of the air, the appearance of the waves, the smell on the breeze and even something additional (perhaps the slight increase in air pressure our instruments recorded) all bespoke the unfamiliar.

After ten minutes peering through the blinding fog Haworth cleared his throat.

"Suppose this fog never does clear!"

A wild thought and great impatience possessed me.

"But if it doesn't, then we can never see anything—never discover anything! Besides, why shouldn't it clear?"

But I realized then, deep inside of me. For centuries the astronomers on Earth had gazed at this planet and never once could they say for certain they had seen anything but clouds. We knew that. Yet we never thought of such a dense fog as this. It was hot mist—in fact, steam. Our faces were wet with water and perspiration, for it was uncomfortably warm out there, in spite of the breeze.

"Well," observed Mason, "just what were you planning to do on Venus when you did get there, Haworth?"

And he smiled ruefully.

We went back inside and ate our meal. We were all of us bitterly disappointed. Our eager sense of adventurous discovery was dampened by too much fog. It was really a terrific let-down. What was to be done?

Haworth, however, had a plan as usual.

"We must find land. Perhaps the mists lessen near land. Certainly, if we can find elevated sections of country we shall be able to climb out of these vapors. We can turn on the power and away we go over the waves! A high-powered speed boat, if you understand what I mean.

"We'll cruise about until we either find land or until our two weeks are up—one or the other."

Our feelings revived considerably. Mason insisted on drinking a toast to Venus and since we had finished our meal he thought brandy appropriate. We three raised our glasses joyfully to the world of new adventure.

"After all," Mason pointed out, "we are sure to strike land soon. We'll leave the *Asteroid* and form a land expedition. On some mountainside or on a high plateau we will find ourselves in clear air and can look around upon our new domain. Think of it!"

He sat staring blindly at his glass and speaking half to himself:

"Think of it . . . Men on Venus! There she lies outside, the unknown."

He looked up at me suddenly.

"What are we doing here, wasting time? Come! Let's start," and he rose excitedly to his feet.

That was all very well. But there were other things to ascertain.

"We must find our points of the compass," I objected, "or we won't know where we are going."

For answer he brought out a pocket compass.

"Of course it may be off true north, with all the metal there is on this ship, but since there's approximately the same metal in all directions, it may be somewhere near right. There's north, over there."

BUT that did not help much. There was nothing anywhere but oceans. Mason looked out through the open air lock doors.

"Well," he said in mock seriousness, "that makes it an east wind. And sure enough, here comes the rain! We'd better shut the door."

He suited his actions to his words and, returning, sat down again.

"First we will sleep and then we start," Haworth decided.

We slept for eight hours and, upon waking, I noticed in the periscope that the light was about the same as it had been. Did it never grow dark on Venus, I wondered. I called Mason's attention to it.

"Humm! Doesn't prove anything. If the atmosphere is as dense as it seems to be there probably is never any real bright day or any absolutely dark night. I think a day is about thirty hours up here."

Subsequent observations tended to confirm his opinion.

After a meal we climbed into our cots and Haworth pulled the starting lever down very gently a few notches only.

It was no motionless feeling this time. The ship bounced and jerked like any sea-borne craft and in the glass I could see the waves sweeping past, one occasionally splashing up over the lens and obscuring all vision until the water dripped off.

"Suppose we hit a rock," I suggested.

Haworth nodded and pushed back the lever a notch or two. The ship, which had been almost horizontal, straightened up until the floors and walls both sloped at a 45-degree angle to our swinging cots. The glass remained clear now, for the nose of the vessel was well above the waves. The speed indicator stood just below thirty miles an hour. We kept steadily on a course due west (if our compasses were accurate). We were proceeding on the theory that on the Earth, at least, the great continent masses ran north and south and we hoped by traveling west we would be more likely to find land.

From time to time Mason went into the vestibule and threw the lead to take a sounding. But the ocean was evidently a very deep one. We proceeded with confidence. Hour after hour went by. I relieved Mason at the glass and he spent his time calculating that at this rate we would circumnavigate the new world in something under a month. The voyage became monotonous. There was one thing settled, however: a very apparent change in the intensity of daylight was noticed by all of us, although it was not by any means real day or night as we knew them on earth. What might be called a slight lessening of the gloom occurred once in about thirty hours. That made Venus' rotation period just what Mason had suggested—sixty hours. I mourned that we had no light-measuring instruments in our supplies, with which to check up on these rough observations, but the figure may be taken as probably correct.

But day or night made very little difference to us—for the fog continually shut us in anyway. We stood watches of four hours each, two of us being always on the look out. We drove the ship for nine solid days—6,480 earthly miles by dead reckoning. Then we saw a bird.

Mason saw it, to be precise. He called to us, but it had flown out of focus and he tried in vain to find it again. I urged that we reduce our speed to the point where one of us could stand at the open vestibule and make actual observations as we proceeded.

"We may be getting near land. That bird is a sign of it."

This was agreed to, and I stood the first vestibule-watch. The first thing I did was to take our lead on the end of a long thin line and make soundings, for Mason had not done so in some hours. I found sixty feet of water!

That gave us pause, because even with our huge first step discarded in space, our total length was 110 feet and we drew about 50 of it below the surface.

"The fact is," said Mason, "that we've been absurdly lucky. We might have hit bottom any time the past week. We might have landed this ship on a hard, cold mountain peak to begin with. Let's not tempt fate any further, but take it easy for a while!"

We made a bare ten miles an hour after that, and it was two hours later that I saw a bird. But it was no such bird as I had ever seen before. There was something familiar, though, about the long jagged beak and the great membranous wings. And then I understood.

"Good God! It's a pterodactyl!"

Since we later saw several of these strange flying reptiles, I am in a position to say here that there were certain important differences between the species we observed and those once plentiful upon our own Earth in the Carboniferous Era. But essentially there could be no doubt that the relationship was extraordinarily close. In fact, there were later observed no less than seven reptiles as well as half a hundred insects and vegetable forms of life that could unquestionably be related to current or primitive life-forms on Earth. So much so that I am confident the whole theory of the origin of life will, upon closer reasoning, be vastly expanded beyond its present scope.

This is not a scientific paper, however.

Haworth looked up at me from the pump-room controls as I announced my find. And just at that moment the ship gave a slight lurch and tipped slowly sideways. Haworth grabbed the power lever and shut off the rockets; Mason started to climb over toward me, while I clung onto the walls of the vestibule and peered out.

There was a blackness a few hundred feet ahead, showing through the surrounding clouds of steam. It could mean only one thing: We had found land!

CHAPTER VII

Adrift in the Fog

OUR first concern was for our vessel and we found she was in water a little less than 47 feet deep. While this was less than we required to be afloat, we were not in the least alarmed. We could, with a small fraction of our rocket power, readily free ourselves. In fact, Haworth decided to go still farther ashore. He turned on the power gingerly while we crept and careened along for another fifty feet. Here, however, the water shoaled rapidly and he shut off the rockets.

There was no question about what to do next. Our cramped quarters made us long to stretch our legs on solid earth once again. There was nothing to delay us. The collapsible boat was lowered and we climbed down into her and pulled for the dark mass of shore showing clearly now through the mist. It was distant about two hundred feet, and when we pulled up alongside it proved to be a mud-bank enormously overgrown with vegetation. Roots, branches and tree-trunks were tangled to the very edge of the water. But do not think there was any familiarity in its appearance. No friendly green leaves met the eye. All was sickly, dirty gray, and such leaves as there were seemed to be mere rudimentary spikes and fronds.

We rowed slowly along this bank, wide eyed and with beating hearts. It was not a friendly land, evidently—but it was outlandish and of exceeding interest.

It was evident from here, however, that higher ground lay to the right. We rowed about two hundred feet through the fog to a shadow which proved to be a low line of rocks which cropped out through the vegetation.

Haworth pulled the nose of our boat up to them and Mason and I leaped out. We were the first to set foot on the soil of Venus. Haworth announced that he would stand by the boat for five minutes.

"Then one of you must come back," he added, "and give me a chance."

We both carried rifles, of course. At first we could see nothing but mist and hear nothing but the splash of the waves against the rocks. These extended inland, slowly rising, as far as we could see (which was less than 100 yards) and were almost completely bare of vegetation. On both sides of this stony strip lay the steaming, impassable jungle. We took a few hesitant steps and peered about us.

Then I jumped. Something, indistinct in the swirling vapor, ran quickly across from right to left. It was about three feet in height and ran on its two hind legs. There could be no doubt that it had a tail, for this appendage had seemed to be as big as the rest of the animal put together.

We threw our rifles forward and waited expectantly.

Then in the jungle on our right commenced an enormous splashing and crackling of branches. We turned to stare an instant. We both saw something, but could not make it out at first. Then I perceived that it was an enormous neck, huge and shadowy, at the end of which was an absurdly small head.

We retreated hastily to the boat, where Haworth was anxiously endeavoring to see what had caused the noise. We had scarcely got in the boat and pushed off a few feet from shore, when a huge beast slumped out on to the rocky ledge and ponderously crossed it, disappearing into the vegetation on the left.

The beast closely resembled the now extinct earthly species—*Dinosaur brontosaurus*. Of course there were differences. The jaws were long and narrow, almost like a beak, and the legs were longer and thicker than would be indicated by the fossil remains of the brontosaurus lizard. It was a monstrous specimen—easily a hundred feet in length.

But mere words can give no idea of the thrill of proximity to that mountain of flesh. We used the oars frantically to get the boat well away from possible danger. A thousand wild surmises coursed through my brain. First a Pterodactyl and now a dinosaur! Was all this some fantastic nightmare? Were three sane twentieth century humans really set down in some grotesque revival of the Carboniferous Era? My heart was pounding frantically and I noticed Haworth was breathing harder than usual. When the great reptile finally splashed out of sight in the gray-white tangle I breathed a sigh of relief.

"How would you like to get stepped on by that fellow?" asked Mason.

"He is probably too slow to be dangerous," I replied. "An active man could dodge him without breathing hard. And he hasn't more than a few ounces of brain in that tiny head, either. If that's the worst Venus has to show we needn't worry much!"

"The real danger on Venus," said Haworth mournfully, "is this damn' fog. I should have forseen it! I think we had better get back to the *Asteroid* and plan out this expedition a little more."

As usual, he was right. This blinding atmosphere was the one thing we had not counted on. It was almost im-

possible to go anywhere or do anything. You can have no idea (unless you live in London, perhaps) what it feels like to be always unable to see even a clear hundred yards ahead. Beyond that point everything is lost in swirling mist, even when a breeze is blowing. Occasionally the fog blanket shuts down until it is hard to see two steps in any direction.

Just the few yards we had pulled up the shore had taken us completely out of sight of the ship. We found her again, all right, by dead reckoning. But as Mason pointed out:

"Supposing we had gone for a walk on shore and got out of sight of the water?"

"What we should have brought is a bloodhound," I said. "Then we could go where we please and let the dog lead us back."

We sat around our meal in the living cabin and discussed the problem. We had only four days remaining before it would be necessary to start back. And any delay, supposing we had a later course calculated (which we hadn't) made the return trip "more difficult and less desirable," as Mason put it. This was on account of the position of the two planets, Earth and Venus, in their orbits.

We had our compass for direction and our guns for protection, although they might not be much use against such a beast as we had seen. And the compass was not reliable, from having been so long in the enormous metallic hull of the *Asteroid*. Definite aberrations were noticeable in its needle.

"And besides," said Mason, "conditions may be different here as to magnetic fluctuations, even if the compass were trustworthy."

"What we might do," said Haworth thoughtfully, "is to take along a number of stakes and peg one down every hundred feet or so of our progress. Then we could find our way back by them."

One thing we all agreed upon was the desirability of making *some* sort of expedition. It would be too ridiculous to come all this distance just to see some water and a little jungle!

I was enormously excited at the significance of the beasts we had seen. What vast possibilities it all opened up! It has been suggested by some scientists that life may have arrived on earth out of space in microscopic form. A dust of microbes, perhaps—each capable of undergoing evolution. After all, Venus and Earth were sisters, born of the same sun. Why should not some forms of life grow in parallel directions on both planets? These questions so interested me that I believe I would have cheerfully tramped off into the fog by myself. Probably I should have regretted it bitterly enough if I had, as I was to learn.

OUR conference broke up with the understanding that we would get a few hours' rest and then explore along the rock ledge as far as we could, taking every precaution possible against losing our direction.

That night was the most uncomfortable I ever spent. We had been in the custom of leaving the air-lock doors open while traveling over the sea and we did not close them now. But, close to land as we were, the heat was soon unbearable. Bathed in perspiration and unable to sleep, I finally rose and climbed up to the pump-room floor (now above us almost vertically) to shut the doors. I believe the action saved our lives.

I had just turned on all the refrigerators and adjusted the oxygen feed and artificial atmosphere controls and was starting to descend to my cot when Haworth screamed.

I glanced hastily down and saw him half risen in bed, battling wildly with both hands, while two bird-like things poised and darted about him. I could see even in that instant a thin trickle of blood that ran from a wound in his cheek. While I stared, I felt something brush my shoulder and, with an involuntary cry, I loosened one hand from its grip on the water-tank rungs and struck at the thing that was attacking me.

None of us had weapons to hand, since these were kept above in the pump room. Our attackers were persistent, so that it was necessary to strike them away with our bare hands. There seemed to be dozens of them. I was in an awkward position, with only one hand free, and when I felt two or three bites deep in my flesh (one just missed taking out my right eye) I was desperate.

Suddenly the attacks became slower and slower. I couldn't understand why. In an instant I found myself no longer menaced. I felt stronger, too, and breathless from the heat of the struggle as I was, I realized finally that the refrigerators must in some way have turned the trick.

Below me Mason and Haworth were having a breathing spell also. As I looked down at them I saw Haworth slump queerly in a heap on his coat.

Mason and I rushed to him and I got some water from the tank to bathe his face, for he was covered with blood and perspiration. We kept looking warily around for the bird-like things as we worked over him, but saw no signs of them.

Haworth came to his senses after a few minutes and smiled weakly at us.

"Close thing, that!"

We had first aid material in plenty and bandaged each other as well as we could. The wounds were curiously even and neat. A piece of flesh was taken out about one inch long and a quarter of that in width and depth. It was the same in every case. Haworth had one taken out of his chin—black whiskers and all. He had eight such wounds, but Mason and myself were not half as badly off. Unless we had been poisoned, they were nothing serious, we thought.

"We must find those things and kill them," said Mason fiercely, now armed with a frying pan from the kitchen cabinet.

But I would not let him start on the hunt until I had turned on the emergency refrigerator full tilt and the ship, after the stifling Venus temperature, seemed like an ice-box.

We found seven of them—helpless and motionless on the floor in the lowest corner. Evidently the cold was beyond their powers of adaptability. They were from nine to twelve inches long and probably insects. I have one specimen with me now and I expect the entomologists will have some trouble deciding its classification, for it has five segments in its body. The remarkable feature is the sharp, powerful beak. It resembles the mandibles of a turtle. Mason smashed all seven thoroughly. But the three we found on the pump-room floor above I attended to myself and, as I have said, I kept one specimen intact (but very thoroughly dosed with cyanide of potassium, you may be sure.)

We slept like logs for the next twelve hours and when I awoke my first thought was for my wounds, for I feared poisoning. They were, I was glad to find, perfectly healthy and had already started to heal.

I do not know why I should have feared poison or innoculation of harmful bacteria. I have since given some consideration to the possible bacterial life on Venus. I believe a case might be made out to the effect that harmful bacteria undergo evolution like all other forms of life. Why not? And if that be so, then primitive bacteria such as we were likely to find here might be as

harmless in comparison to our modern species on Earth as a gibbon monkey throwing cocoanuts is, compared to a twentieth century human shooting a rifle. I offer this for what it may be worth—probably very little, for we attempted absolutely no microscopic work on Venus. I have in our collections, however, some dozen vacuum bottles filled with Venus air taken at different levels and locations. Competent scientists will have, at least, some actual data to go on.

But Haworth was still weak and, short as our time was, we must perforce delay our exploration. As it happened, it was nearly forty-eight hours before he felt strong enough. And we felt even then that he only professed his health in order to avoid disappointing us. We wouldn't let him out for another twenty hours.

We sat in the vestibule looking over at the dark shadow that was the shore and discussing the chances of a visit from more of the "mosquitoes" (as Mason was pleased to call them). Mason and I would have made a short trip alone, but we had by this time begun to realize that only with the exercise of the utmost precaution could we hope to make any expedition successful. Haworth was our natural leader and without him we seemed bereft of confidence.

It was just thirty hours before our scheduled return when he insisted we make the venture.

"I'm perfectly all right now," he said, "and we have to act right away or probably never get the chance again."

He seemed strong enough, although his face was paler than usual, perhaps. We gathered our equipment—some food, rifles, bandoliers, two hatchets and the compasses—and Haworth followed us down the ladder, first closing the air-lock door and leaving the key in the slit.

"We might lose the key if we took it with us," he explained.

I rowed. We went as before, directly to the mud-bank and along it to the ledge of rock, where we disembarked. Mason had brought along a length of line and he tied one end to a broken piece of rock. The other end was fastened to the nose of our little boat, which he pushed strongly out from the shore, heaving the rock after it. She swung jauntily at her mooring, about twelve feet off shore.

"Just so one of your giant lizard friends doesn't step on her," he grinned at me. "We can easily get out to her at that depth."

Our compass was consulted and due north seemed to be about in the direction we had left the *Asteroid*. The opening between the jungle-swamps on either hand seemed to lead away to the east.

"First," said Haworth, "we must get some stakes to set out as we go."

He went to the edge of the rock and hacked away, Mason helping him, at some of the plants in the jungle's rim. They cut branches about four feet long and, as the wood was spongy and easily severed, the labor was inconsiderable. We soon had a dozen stakes apiece and Haworth drove the first one into a natural crack in the rocks.

Then we picked up our bundles of sticks and our rifles and proceeded eagerly into the mist. I was wildly excited. Every step might bring us into sight of something new. Most certainly it would be "unearthly!" We walked as quietly as we could, for no telling what danger might lurk around us. Eager as we were, I don't think we could have been called comfortable in our minds. From the right we could hear distant sounds of splashing and from both sides of the jungle life was audible in faint rustlings and indistinct sounds.

When we had gone about a hundred yards, we fixed another stake upright with loose stones. As we moved along, the ledge of rock widened, until we could no longer see even the shadow of vegetable growth on each side. The ground sloped gently upward as we progressed.

We were adrift in a sea of fog.

MASON gasped and gripped my arm tenselv. He was staring to the right and following his line of vision I saw an amorphous mass loom darkly against the gray steam. We stood stock-still for a minute—scarcely breathing. Then Haworth whispered:

"It doesn't move. Let's get a little nearer."

Very cautiously we did so. It was a tree.

Vastly relieved, we approached and found three trees growing close together in a pocket of earth which lay like an oasis in this fog-bound desert of rock. They were curious trees, about fifty feet in height and clothed with foliage at the top only. The trunks were faintly suggestive of certain tropical tree-ferns I had seen in greenhouses in New York, but of course by no means the same. Every foot or so the bark ended in a curious sort of protruding knob, flattened on its upper surface. Behind each knob an inner layer of bark continued up the trunk, to curl outward a foot higher in the same sort of thing. I put out my hand and found the projections very hard and, to my surprise, strong enough to bear my weight.

"This would be mighty convenient to climb if we meet any desperate characters!" I remarked jocularly.

"Hssssh!"

Mason was holding his head in a strained listening attitude. Haworth was holding his finger to his lips and I strained my ears expectantly. Unconsciously we drew together close to the trunk of one of the tree-ferns.

I saw something move. It was just a shadow at first. Then I could see that it walked on two legs. As it came still closer I could distinguish arms and claw-like hands. It was about three feet high. Its face was mostly snout and teeth, but in one of the hands it held a tree branch crudely broken off to form a club!

Curious sliding steps it took—straight toward us. At about fifty yards distance it stopped suspiciously and stared in our direction, as if hesitating whether or not to come further.

Haworth pressed my shoulder warningly and then slowly advanced out of the shelter of the trees. He moved with the utmost precaution "to avoid frightening it," as he afterwards explained. But he need not have worried had he known as much about the courage of these animals as we did a little later on.

The creature remained motionless until he had advanced twenty feet. Then it stirred nervously. Haworth came to a halt and raised his right arm slowly over his head. There was no motion from the other and Haworth started to talk to it in a quiet tone of voice. I could see the head twitch suddenly at the sound, but there was no other response.

Then Haworth took another step forward and like a flash the creature spun about and fled in great leaping strides.

Our leader shouted at it excitedly and followed. We, in turn, followed Haworth. We ran about a hundred yards when we came in sight of a dense growth of trees. We were panting painfully and absolutely saturated with sweat in that hot-house atmosphere.

"Did you see the club? That means an opposing thumb on the hand! There isn't any doubt the beast is intelligent to at least some extent!"

"This is the most important thing we have seen yet."

But I had seen something of a different sort when the beast had turned to flee.

"It has a tail," I reminded them. "A real large tail,

almost as big as a kangaroo's. And that snout strongly suggests the reptile, if ever I saw one!"

We walked slowly toward the dark shadow of the forest, mopping our brows and endeavoring to recover our breath. The ground here was possibly fifty feet higher in elevation than the swamps at the water's edge and the growth of vegetation was not nearly so rank as it was down there. Openings were visible here and there between the tree-trunks.

We were within fifty feet of one opening when we all three stopped uncertainly, as though we had realized in unison that danger might lie hidden just behind that screen of foliage. And as we stood there I saw a movement in the shadows, close to the ground. Out from the woods stepped the animal we had been pursuing and beside him stood half a dozen more of the same kind. Slowly they came out into the open. Still more of them followed and spread out on each side until nearly fifty of the beasts were visible.

We all three had dropped our bundles of stakes and had our rifles ready for action.

"Don't shoot until we have to," whispered Haworth and stepping forward a pace he raised his rifle in the air and gestured with his free arm.

"There, there, there," he said in a soothing tone, "We'd like to be friends if you'd let us."

They seemed undecided as to how they would take this. They cocked their heads sideways, some of them, for all the world like a dog that has been spoken to. Two or three of them uttered curious little croaks and shifted uneasily on their feet. I was beginning to believe we might establish some sort of understanding with them after all, when one of the beasts began leaping up and down and uttering wild chattering squeals. At that they all seemed to get excited and started to advance upon us.

I raised my rifle and pulled he trigger, aiming at the foremost of the creatures, who slumped to the ground and lay there thrashing his tail and biting savagely at the rocky ground.

The shot stopped them.

It rang out like a thunderclap on the still air. The whole of Venus seemed to be standing still and listening in wonder at the strange sound. But without a pause Mason and Haworth stepped forward, guns ready. I followed suit.

"We've got to bluff them and keep 'em bluffed," Mason whispered.

We never knew how it might have turned out. There was a brisk crashing away on our left and we swung in that direction. The sounds were approaching, but we could see nothing as yet. In that brief second the whole group of reptile-men disappeared. Only the dead one lay on the ground when we turned back. What was this thing approaching us that caused them to flee?

"Let's get out of here quick!"

CHAPTER VIII

Desperate Moments

WE followed Haworth down the slope at a trot. We were out of breath instantly in the terrible heat and dampness and when the clump of three trees showed itself through the mist we paused to gather ourselves together. Behind us we heard the crashing now much closer. Suddenly a huge coughing roar shook the very ground we stood on.

"Quick!" I shouted. "We can get up these trees and be safe!"

The sounds were coming nearer now with terrifying rapidity as we all three started up the ladder like trunk of the nearest tree fern. We climbed as far as we could—about forty feet—and looked down with pounding hearts.

Suddenly there burst into view a huge beast running at a terrific pace. He strode gigantically on two hind legs, holding his fore feet under his chin. Most terrifying of all were his great jaws—fully six feet in length and massively armored with gigantic teeth.

I recognized a startling resemblance to that most ferocious and powerful living creature ever known to the human race—the great *Dinosaur tyrannus Rex!*

He must have winded us as he passed the tree, for he came to a grinding stop just beyond us, his huge talons making long grooves in the eroded surface of the rock. Then he wheeled fiercely and bounded back to rear his thirty-foot height up at us.

We were in the palm-like top of the tree by now, as you may imagine, and hanging on for dear life. The shock of his great weight almost did for me. My hold loosened as the tree sprang back from the blow and I slipped down half-a-dozen feet until my tearing, bleeding fingers got a grip again. I scrambled back to my place again in a panic.

The terrific beast seemed to realize we were beyond his reach, for he did not again make an attempt to seize us. His great slavering jaws opened to emit a huge blasting roar and he made off back toward the woods, where he intended doubtlessly to dispose of the reptile-man I had shot.

The last roar was accompanied by a wet scorching stench such as I hope never again to experience. I was nearly sick at the first whiff of it and could not bear to draw breath until the slight breeze had made the air possible once more.

We could hear the beast at its grisly meal, although he was several hundred feet distant and entirely invisible. In twenty minutes back he came and his little eyes stared up at us coldly. He stood there a few minutes and then moved off and we could hear him grunting and snorting as he forced his way through the woods up the slope.

We three were completely prostrated. You have no notion how enervating climate can be. I could laugh at our worst earthly tropics after what I have been through! Even a slow walk started the perspiration running in torrents and we had been running and scrambling for our very lives. Our nerves were frayed, too. And poor Haworth was barely able to hold on to his branch. In fact, we fixed a sort of couch up there for him and he sprawled on it, his neatly-pointed beard now in filthy disarray. I managed to slip down to the ground, taking it slowly, and pick up one hatchet and two rifles. The other hatchet had been dropped and one of the rifles had been stepped on by our perfumed visitor. With the hatchet we chopped some of the great leaves and wove them across two branches. Haworth fell asleep almost immediately and Mason and I talked over things worriedly.

"I'd judge we're about five hundred yards from shore," said Mason. "If we strike it right, that would be easy. We'd better start as soon as Haworth can move."

We consulted the compass and decided upon the general direction, which was west, naturally. We had borne almost due east when we started off from the boat. But direction meant nothing tangible in that blinding mist. We estimated we ought not to be two hundred yards from the nearest stake.

"Why shouldn't one of us start down and scout around," I suggested, "while the other stays here with Haworth?"

"All right. I'll go, if you like."

But I insisted on making the trip myself. I climbed down and started off due west by compass. I moved in

absolute silence, gun in the crook of my arm. We had agreed that in case of alarm Mason was to start calling from the tree-top and that I could quickly find my way back guided by his voice.

After I had walked what I guessed to be two hundred yards I looked carefully about me in the fog, but could see absolutely nothing like a stake anywhere. I spent ten minutes searching over the bare rock without success and started back. After all, I thought to myself, we know the general direction. It should be a simple matter to find the shore again. I felt that I could have proceeded directly to it then and there.

When I had walked back a sufficient distance I was surprised to be unable to see the clump of trees. I didn't dare to call out for God knows what frightful answer I might receive. But in what direction was I to turn?

That moment was the worst of my life, I fully believe. Alone on a strange and terrible planet. Lost!

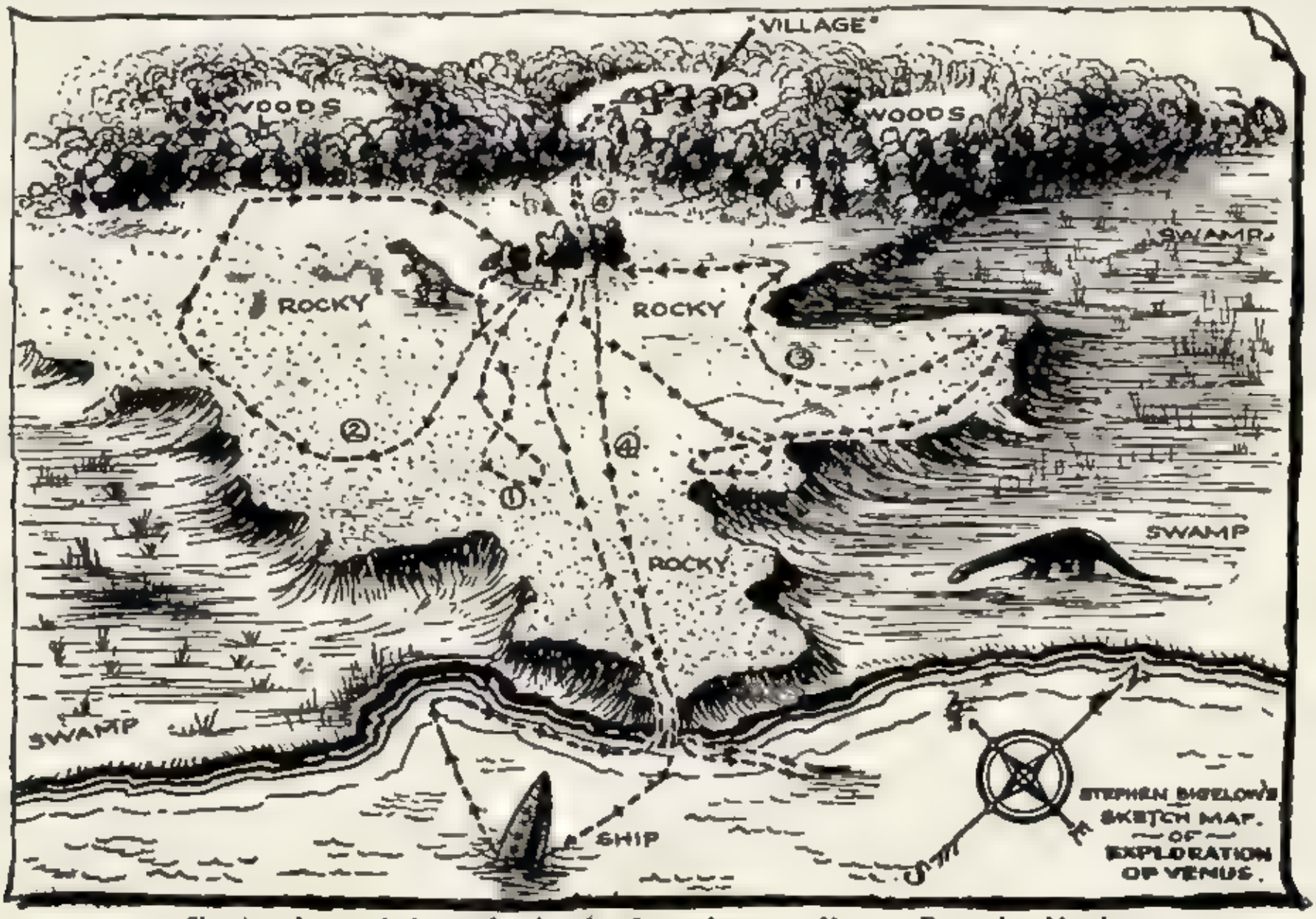
I stopped dead still and listened, but either my heart was pounding like a bass drum and drowned out all lesser sounds, or else the swirling mists were without voice. Come, I thought to myself, I must keep my head. There's no use getting into a panic! And of course that made things worse than ever. I tried to observe my own footprints on the rocks and could trace my steps quite easily for a dozen feet but they were soon obliterated by the wet fog and I gave that method up in despair. Then I started running.

Don't ask me why! I didn't run far, for a worse thought came to me and stopped my course in one wild heart-straining slither. Suppose I were running away from the three trees and got out of range of Mason's voice?

I tried to retrace my steps and got started, at least, in the right direction, walking quietly so as to hear any noise there might be. Then the marks on the dripping rock became indistinguishable and I cast around vainly for a clue, trembling now with the heat and my physical and nervous exhaustion.

I spent another ten minutes of frantic searching over the barren ground when I heard a sound. For one terrible half-second I did not recognize Mason's voice. Then I gasped my relief and ran silently and very wetly towards the voice. I climbed the tree almost as quickly as I had done the first time and Mason patted my shoulder to steady me, for I was trembling in every limb.

"Easy there, lad! Why all the excitement? Get lost down there?"



Showing the wandering path taken by the explorers on Venus. From the ship the trail led to the clump of trees from which (1) Bigelow made his frantic excursion. (2) shows the first attempt of the party to return to the ship, ending however in their return to the tree. (3) was their second and more determined attempt to find their way to the shore through the fog. (4) was their path taken to the village of the reptile-men and thence back to the ship.

I TOLD him presently of the extreme difficulty of finding one's way about alone on Venus. The horror of that moment never left me while we remained on the planet. I wished for nothing but a return to the clear atmosphere of our own Earth. As a matter of fact, I was in a plain funk, although for some reason I now find I dislike writing it down as that.

It is nice to think of one's self as a bold heroic figure. (Intrepid explorer, you know.) But sitting here in se-

curity as I write, I wonder that I ever had courage enough at first to set foot on the soil of Venus and I realize clearly that I am not at all a brave man. Apropos, I wonder how many African explorers were frightened out of their wits by their first sight of a lion? It's easy to forget such things afterwards, or rather, I should say it is hard to admit them.

Haworth was stirring in his sleep by then and muttering incoherently. I was physically sick from my recent adventure and even Mason was exhausted. It was clearly impossible to do anything at all until we had rested. We had stuffed some food in our pockets before leaving the *Asteroid* and made a light meal in the treetop. For drink, Mason climbed down and filled his hat with the warm steaming water which made shallow puddles in every hollow of the rock. It was not exactly delicious, but at least it was not tainted with chlorine, as was the ocean, for the pools were formed by evaporation and condensation, of course. After that we felt a little better.

By this I do not mean comfortable. We were never comfortable on Venus. Our clothes were always dripping wet with mist and perspiration. Water oozed from our shoes and dripped down our backs and legs. In fact, clothes were not strictly necessary at all. We wore jackets of white duck and trousers of the same, tucked into high boots. The jackets gave us handy pockets; the trousers and boots gave protection. We wore no hats or underclothing of any kind.

Haworth slept on, hour after hour, while Mason and myself occupied our time speculating over what we had seen, and observing the life before us. Once a pterodactyl flew past us—his great twenty-foot wings outspread in motionless flight and his long-toothed beak stretched in front of him. He was almost jet black in color and looked leathery. We had a good look at him, for he passed within thirty feet of our tree and did not travel very rapidly. None of these flying reptiles that we observed seemed to flap their wings at all, but depended entirely upon soaring. In fact, their bodies were so small in comparison to their huge wing-spread, I doubt that they could move their wings with sufficient force to fly as an earthly bird does.

I had time to observe carefully the tree in which we rested. The leaves were of the compound type and sprang from the main stem on stout three-sided branches, (or possibly leaf-stalks). The leaf divided in pectate fashion on both sides, growing narrower toward the tip and ending in a short club-like growth of sticky pink which may have been some rudimentary sort of flower. We could observe several insects on the branches and I captured half a dozen which I placed in a flat tin specimen box I always carried in my jacket pocket. Two of them were suggestive of exotic forms I had seen pictured in earthly books of entomology.

One was some sort of beetle-like species and the other a kind of "darning-needle" about seven inches in length. The other insects (if they indeed prove to be insects at all) were outlandish looking things. Mostly the colors were varying hues of sickly whites and grays, similar to the foliage.

Once we heard a terrific rumpus start down in the jungle. We supposed that our friend *Tyrannus Rex* had encountered the brontosaurus. We could hear some great tail smacking the surface of the water. If it were brontosaurus, he was evidently not equipped with vocal organs, for the grunting and roaring was all one-sided. So was the battle, evidently. It lasted about ten minutes and our late visitor probably for once in his life had enough to eat for a while. That carcass would have fed a regiment for a week. As the noise ceased, I thought I could see one of the reptile-men moving across the open rock in the direction of the sounds, but it was just far enough away as to be only a vague shadow in the fog. Possibly it was mere imagination.

Then three little running things raced past our clump of trees and out of sight, being presently followed by a long dead-white running creature on eight flimsy legs. He was a nightmare! His body was not more than six inches through and yet was a good six feet in length, with a huge triangular head armed with jaws that kept opening and shutting viciously as he ran. He was out of sight in a moment and we never observed another like him during the time we spent on the planet.

The time dragged slowly. Mason and I occasionally addressed a remark to each other as we watched. He was nervously consulting his watch every little while.

"This may be mighty serious, you know," he said at last. "We have only three hours left now before we will simply have to start back for the ship. We must commence our return flight to the Earth on time or—not at all. A delay means figuring the direction and course out all over again. That may not be possible."

"What! And you such a good astronomer!"

"Oh, it's the time it would take that bothers me. You see, I can't apply a formula to the calculation, because there are three variables. And the trial and error method means a lot of figuring."

"But suppose you do figure out the course all over again, what of it? Suppose we are a week behind schedule, that only means arriving a week late back home, doesn't it?"

Mason looked uncomfortable and very serious.

"I'm afraid not. The schedule was planned to allow the utmost possible time on Venus. If we are delayed, Venus would get too far ahead of the Earth in its course about the sun. We would have to wait over a year before we could find it possible to return."

"Great Heavens! A year in this living Hell?"

"Exactly!" answered Mason and he bent over Haworth with an anxious air.

The full purport of Mason's words began to flow in on me. What would we do? Even supposing we got back safely to the vessel—as of course we must, sometime—what would a whole year be like here? Our food supplies were, of course, entirely inadequate for such a length of time. Our fuel was not inexhaustible and even the slight amount required to keep the refrigerators going could not be spared for a year's operation. I passed my hand over my greasy and dripping forehead and reflected wildly on twelve solid months of unmitigated Venus climate.

We might kill reptiles for food—one moderate-sized brontosaurus would keep us going for months. Stay though! For a few days only, come to think of it. No meat would keep a week in that climate. We would have to kill every other day. Hunting expeditions into that blind blanketing fog! Oh how I longed for one soul filling glimpse of an earthly landscape on a clear crisp autumn day with miles upon miles of rolling country to the hazy horizon!

And suppose the "mosquitoes" attacked us on a hunting expedition? Or *Tyrannus Rex* got on our trail at a distance from the nearest tree? And moreover, what new and as yet unencountered monstrosities of nature might lie in store for us farther inland?

MY vague fears and longings to get back to the ship now amounted almost to hysteria. It put out of my mind any fear for what might menace us on the ground below. I fidgeted desperately a few minutes and then

suggested that we try to wake our companion and get started along. Mason thought we should wait a little longer but finally shook Haworth's shoulder and called his name. His eyes came open vacantly and he blinked at us weakly a few seconds.

"We ought to be getting back, old man," I put in. "Do you think you can make it yet?"

"What time is it?"

We told him and explained that there was less than three hours' grace before our scheduled start. He sat up immediately and professed himself well able to move.

"I feel a little dizzy," he confessed, "but I'm all right really."

We climbed down the tree in strict silence and listened carefully and peered in all directions, but there seemed no danger. We scouted about a little and I found the lost hatchet a few dozen yards up the slope. Then we got out Mason's compass and Haworth suggested that Mason start ahead; I was to follow him about a hundred feet behind, while Haworth himself would bring up the rear allowing the same interval between himself and me.

"In that way we can be sure we are at least traveling in a straight line."

We did this and aimed our course due west. But as if to hinder us in every way possible, the breeze had died down and the fog closed on us like a ghostly pall. We found that we had to draw closer together to remain visible to each other. We walked for ten minutes in utter stillness and should have come in sight of either the shore or the jungle, but nothing was to be seen except the uneven surface of the bare rock on which we walked. Mason stopped a moment and we all paused to look carefully about us. Then we continued our walk for ten minutes more. By this time we knew we had definitely missed the seemingly simple route. Haworth closed up towards me and Mason also started back to join us.

We examined the compass carefully and it certainly seemed an uncertain thing to depend on for our lives. Back on earth it had been a very expensive and reliable instrument. But here it wobbled and pivoted unsteadily over forty-five degrees of the horizon. (Just an earthly simile, for there wasn't such thing as a "horizon"—only the white wall of fog shutting us in.)

"We can only keep walking," Haworth worried. "If we keep spreading out this way we will go in a straight line at least and will certainly come to some place in time."

"We were only five hundred yards from the shore when we left those trees," complained Mason. "We knew the general direction. It doesn't seem possible that we have missed a simple course like this."

But we had.

In the next five minutes the ground commenced to slope upward and I knew we were absolutely lost. We kept on, however, for a few minutes more until Mason stopped suddenly, turned toward us and beckoned. We walked quickly and quietly up to where he stood and found ourselves in sight of the line of woods. We moved up closer and came upon signs of a struggle, for there was a good deal of blood about the ground.

I looked about me and thought I recognized the spot where we had encountered the reptile-men. I told the others and, after some hesitation, they both agreed with me. We eyed the dark shadow of the trees, half expecting to see a mob of the creatures pour out to attack us, but everything was quiet and nothing appeared in our range of vision except the motionless trunks with their vague feathered tops.

We at least knew where we were once more and set out at once for the clump of three trees where we had spent so many hours. These were not far away and we found them without much trouble and flung ourselves down to rest beside them. For, as I have said before and again point out, Venus is cursed with an almost inconceivably uncomfortable climate. We had been walking almost half an hour and, personally, I felt as if I had just fallen into a warm lake.

It was fortunate we had found the trees when we did. We had not been there two minutes before we heard *Tyrannus Rex* roaring and crashing about in the distance. Heaven knows what had disturbed him, for he must have made the world's record meal off his enormous victim a few hours ago. We started up at the sounds, all three of us, and were soon in no doubt that he was headed our way. We knew what to do about that by this time, however. Up we went, Haworth first, myself next and Mason last.

Mason surveyed with comical disgust the couch we had built in the top of the tree.

"Home again!" he said ironically.

We could hear the crashing sounds coming nearer and then we suddenly saw several indistinct things moving below us about two hundred feet away. The breeze had sprung up again and visibility was better than it had been. They were reptile-men and there were dozens of them. I could hardly resist crying out to warn them before it occurred to me that they could hear the approaching dinosaur as well as we could. I stared in wonder at the little creatures. They were dragging three long ropes, which seemed (we had a chance to examine them later) made from some kind of climbing vine. Half a dozen were clustered together at the end of each length of rope, which must have been two hundred feet, although it was difficult to be certain of anything in the uncertain mist.

As we watched, they spread out excitedly and two of the ropes were dragged away out of sight. The third one was stretched in a straight line, the reptiles on the near end of it coming right under our tree, but without observing us. Then the main body of reptiles walked forward in a mob towards the approaching monster.

"You don't suppose they can take *him* into camp!" exclaimed Mason.

Haworth's eyes were shining and his face showed the greatest excitement. I heard him mutter:

"True reasoning animals. If they can fight that fellow, they have conquered their environment and no mistake!"

CHAPTER IX

Lost

SUDDENLY the great dinosaur uttered a prodigious roar and we heard his crashing twenty-foot strides racing toward us. The mob of reptiles were running for their lives now and crossed over the slackened rope just as the beast burst into view through the fog. He arrived at the rope in three bounds and the same number of seconds. As he did so, the six reptile-men beneath us heaved on the end of it and it rose a foot or two into the air. Tyrannus caught his foot hard against it and the shock pulled the little struggling group ten feet outwards.

But as for their enemy—!

The vibration of his fall caused even the tree in which we crouched to tremble slightly. He lay there stunned. The creatures beneath us raced at high speed off into the fog, taking their rope with them. Then the great beast scrambled to his feet, roaring again and again as he did so. He looked uncertainly about him and, shaking his

head stupidly, suddenly started off into the fog once more at full speed.

In a few seconds we heard again the crash of his second fall. This time he was silent for almost two minutes and in the silence we could distinctly hear the squealing and grunting of his hurrying tormentors.

"Amazing! Perfectly amazing!" whispered Haworth.

Mason was grinning delightedly.

"Aren't they the little dears?" he asked happily. "Now I know I want to make their acquaintance!"

Again we heard the thudding rush and the resounding tumble, but this time the dinosaur was evidently on his feet too soon, for we heard his roaring and two or three high-pitched squeals. Some of the little fellows had been caught.

But there were plenty of them to continue the game, and continue it they did for half an hour—now drawing away from us and now approaching. Finally we were sure they had turned their trick, for five minutes of silence had followed the last crashing fall. As we gazed eagerly in the direction of the last noises, we perceived the reptile-men racing toward us out of the mist.

This time nearly twenty of them crouched beneath our clump of trees, all holding tightly to the end of their rope and staring fixedly out in the direction from which they had come. At the other end of the rope another group could be seen dimly through the fog.

The great coughing roar broke forth afresh and once more the enraged dinosaur came into view. He was not traveling so fast this time, however, and he was covered with blood and filth. His great jaws were wide open and blood of a startling green hue dripped from them.

The rope tightened before his step and tripped him. But this time, while he was still hurtling through the air, the reptile-men rushed out, abandoning their rope. At the same time the other group closed in on him and presently through the white wall that shut us in came a vast mob of them, all racing swiftly toward their now silent foe. Desperately they threw their ropes over his body and twisted them about the slowly-moving tail. Some of them carried large rocks and half a dozen at once clambered swiftly up on his back and commenced hammering with the rocks on his spine. It looked as though they had won their battle for a minute, but the end was not yet. Suddenly the great tail swept up into the air with three of the reptile-men clinging to it and crashed down again on the ground. The huge legs began to scramble for a grip on the stone and the dinosaur rose unsteadily to his feet—the creatures on his back still pounding desperately with the heavy rocks. Their victim was shaky, as could readily be observed, but he was by no means finished.

Frantically the ropes were tightened and those immediately in his path attempted to escape, but the huge jaws reached down and crunched heavily on three of them before you could snap your fingers. The beast surged forward, dragging four ropes and a hundred of his tormenters after him.

So far we had carefully remained in the role of observers, but to do so longer was more than human flesh and blood could stand. We had two good rifles left and, as Mason and Haworth scrambled down the trunk, I took careful aim at my mark and fired ten shots as fast as I could pull the trigger. The efforts of the reptile-men to break the beast's spinal column had given me my clue. I had aimed carefully for this apparently vital spot and I am sure I must have hit at least once, for the range was not more than two hundred feet.

As I hastily refilled the cartridge chamber, I saw my two foolhardy companions start out from the foot of the tree. Haworth had his revolver in hand and Mason had the rifle at his shoulder. They fired as I looked and the dinosaur wheeled about, trailing his hundred stubborn followers behind him and made straight for us. I saw my friends start back to the tree and realized in the same instant that they could never get up out of reach in time.

It was up to me. But the great head now completely obstructed my aim at the one vital spot! My mind raced desperately over a dozen possibilities, but finally I determined to aim for his left eye and, raising my rifle, I pumped ten 32-calibre bullets straight into it.

He kept coming forward for half a second and it was not until he crashed down on his breast that I realized his forward motion had been merely falling.

We never did know exactly what killed him. Perhaps my shots in his back had not taken effect until then, or possibly a few ounces of lead in his brain had done the trick. But he did not move again. My companions had got a few feet up the tree trunk and they now descended once more and waited until I had joined them, when we all three walked forward.

The reptile-men had drawn together in a crowd on the other side of the carcass and they eyed us in silence. Haworth prodded the dead dinosaur with his foot and then held his arm in the air in salutation. We raised our arms also, following his lead, and we all three proceeded to make what we considered to be friendly sounds and gestures. I do not recollect what particular words I said, but I could hear Mason repeating over and over again:

"You plucky little beggars! You *plucky* little beggars!"

They cocked their heads at us and one of them whom we had observed during the fight, which he had several times appeared to be directing, stepped forward a few paces and croaked or grunted (it was an indescribable sound) at us. Haworth promptly mimicked him as well as he could and beckoned vaguely with his left hand. The reptile then jumped in the air several times, quite lively, and stood still, staring inquisitively at us.

Haworth turned around to us.

"I'm blessed if I know what to do," he said. "Can you think of any gesture or sound that might be common to both men and reptiles?"

IT struck me at once: we both had to eat! I opened my mouth to its widest and pointed with my right hand down my throat, smacking my lips loudly. The creature stared at me silently for several seconds. Then he turned his head to the body lying beside us and looked back to me again.

"He evidently thinks you ought to eat your kill," said Mason. "Tell him you want him to cut it up and bring it to you on a silver platter!"

But that gave me another idea. I had a knife in the cotton belt of my trousers. Quickly I pulled this out and walked over to the huge head. I stooped down and cut a two-pound piece from the green, drooling tongue. This I held in my outstretched hand and slowly advanced toward the reptile chief.

That saved the day. He let me come right up to him and took the meat with his strange little claw-fingers; put the whole two pounds into his commodious mouth; chewed it twice and swallowed it—holus-bolus!

And then Haworth had an inspiration. He walked up to the carcass of the late *Tyrannus Rex* and made a broad sweeping gesture toward the gathering of reptiles. Then he backed off a pace and repeated his gesture, keeping the performance up until he reached our vicinity. (I had rejoined Mason in the meantime). That apparently set-

tled the doubts of our visitors. There was a mad scramble for the body and such a piece of trencher-work as they made of it! Their long sharp jaws tore great pieces of flesh out and little attempt was made at mastication. They just gulped it down in a hurry and went back for more. Not even the tough hide seemed to interfere with digestion.

We three humans drew off a little to one side. I was too interested to feel digusted. Several quarrels started here and there and one poor fellow got badly bitten and had to withdraw to attend to his wounds.

But Mason was nervously consulting his watch.

"We have to act quickly to meet our schedule. Do you suppose that you could give them the idea we want to go back where we came from?"

"Not much chance of that for a while yet!"

And indeed the carnival was at its height. We watched in some amusement the Gargantuan meal. Then a movement of shadows beyond the feasters caught my eye. I called Haworth's attention to it and we peered anxiously through the mist, hastily reloading our empty guns from our bandoliers. The shadows did not seem to be approaching, but merely hovered in the background and, since the feasters did not appear to be in the least alarmed, we concluded it must be the "second table" waiting their turn. In this surmise we were entirely correct.

The fury of the prandial onslaught waned and presently they climbed off the raw and gruesome carcass by twos and threes—bloody from head to foot and with noticeably distended bellies. Before the last one could get out of the way, figures emerged literally by the hundred from the surrounding fog—many young ones among them—and all that had happened before might be considered polite table manners compared to the scene that now ensued.

"Women and children last!" and Mason turned away. I felt a little squeamish.

"Now is our chance to try and explain to the chief that we need a guide. Things are getting pretty desperate, you know! An hour and a half more delay and it may mean the end of us. Have you any ideas about sign languages?"

It seems strange enough now that we were not more alarmed than we were. Somehow the knowledge that we were only a quarter of a mile from our vessel kept us from getting into a panic. But on Venus, blinded by the swirling steamy air, with an unreliable compass, it might as well have been a hundred miles. We were, however, entirely uncomfortable and weakened in nerve and body as well as being drenched with perspiration from the stifling heat. In addition, as I have said, I myself did not once fully recover from my complete horror and fear while we remained on the planet.

We spent several minutes in deep thought, occasionally interrupted by those incoherent exclamations that accompany the consideration of serious problems. We finally reached an opinion that if Haworth took the chief aside and pointed in the approximate direction and then attempted to start him along with us, the meaning would be clear enough. And so it would, perhaps; but when Haworth approached the group of warriors it was impossible to identify the chief. They were sprawled in all sorts of attitudes upon the rocky ground, licking their [illegible] with their long pink tongues or blinking vacantly [illegible] another in surfeited delight. But when Haworth [illegible] within ten feet of the nearest, up he jumped and stood eyeing him uneasily. He approached another step and they all got up and moved back before him.

And there we were.

So Haworth pointed in a general westerly direction and made huge beckonings with his other arm, but the beasts just blinked stupidly and some of them backed away a step or so more. He called Mason and myself over and we came instantly, rifles ready, but all he wanted us to do was to stand beside him and make the same gestures he did. We pointed and beckoned for a minute and then he whispered:

"Now let's all back away in the direction we want to go."

So we started off slowly, looking over our shoulders. But if any reaction was apparent on the part of the reptile-men it was one of relief. We stood there, uncertain what to do next.

"We haven't another minute to waste," announced Mason firmly, looking at his watch. "Now let's start west in single file as we did before. But this time let's keep going until we reach the shore. Why, the damn thing is only a few hundred yards away!"

So we took a last look at the reptile-men. The warriors were staring silently back at us and the children and females were too busy to pay us any attention whatever. Then we turned about and started off—Haworth in the lead, myself next and Mason (with the compass) bringing up the rear. After fifty steps I turned around and noticed that the mists had swallowed up the scene of the battle completely, although I could readily tell the direction in which it lay by the confused murmur of the feasters. Keeping spaced out one hundred feet or so apart we proceeded over the rocky surface in as straight a line as we could, with due alterations called out by Mason from the rear and based, he afterwards confessed, half upon the compass and half upon his own good guess.

After a while the ground sloped down slightly and through the surrounding white wall of fog on our right a line of shadow appeared. It was the jungle-swamp. I had rather expected that we would sight it, if anywhere, upon our left, but presumably I had been confused in the mists. Presently Haworth stopped and waited until we both joined him.

"We might as well keep together now. We have only to follow the edge of the jungle down to the shore."

"Thank God!" I exclaimed fervently.

But after twenty minute's march, we were not so sure. And then the swamp's edge curved inwards and we were forced to bear to the left to avoid it. The curve continued until we found our course absolutely cut off. We were lost again.

Mason thought a moment.

"We must be on a tongue of rock running out into this sea of jungle, there's no other explanation. Let's go back to where we first hit the edge of this swamp."

I just followed the others blindly, rifle clutched tightly and my teeth clenched so hard together that my jaws were sore for several days afterwards. We cut across and retraced our steps, walking now more quickly than we had done, and soon came to the end of the jungle. Here it bore away to our left. I wanted to follow it (I wish we had) but the others felt sure that our course lay to our right.

"If we turn right here," said Haworth, "and keep going a few minutes without striking the jungle on the other side of this clear space, then we'll go back and try your way."

But my panic made me obstinate and I started off and went perhaps fifty feet along, close to the jungle. Then the figures of my companions dimmed slightly in the surrounding fog and I turned and incontinently rejoined them.

We had not been walking two minutes—keeping as straight as we could in our single file formation—when

Haworth waved to us, silently. When we reached him the jungle wall was showing vaguely in the steamy air. We felt hopeful once more.

"It's about time, too! Another twenty minutes and we would have been too late to make it. We'll have to hurry along as it is. I hope the little boat is safe where you left her, Mason."

We had been completely exhausted in the vitiating temperature (how Haworth kept going I do not know) but we forgot our discomforts in this fresh hope. In five minutes the tall shadow of a tree swam mistily in the middle distance. At the same time we became aware of a murmur of sound upon our left.

It was the reptile-men still at their feast!

We were back where we had started from. Listlessly we turned to the sound and made our way towards it.

CHAPTER X

A Strange Malady

As we approached our three familiar tree-ferns once again, everything was suddenly quiet and when the advancing wall of mist before us disclosed the gathering of feasters they were in compact array, eyeing us very uneasily, I thought. We attempted to signal them our wishes, but received no answer except the steady emotionless staring.

Evidently they knew us, for after a moment they turned about and started off for the woods on the slope above. We followed them. You could not say we accompanied them, for not one of the beasts would permit us to come closer than ten or twelve feet. On they kept at a rapid pace until the woods were again in sight, we three puffing and sweating behind them and gesturing and talking like madmen. I question, in fact, if we were any longer entirely sane.

Without a pause the whole party plunged into the forest of tree-ferns and we perforce followed. I don't believe we had any definite plan, but we were desperate. It was dark under the foliage, but fairly easy walking. The soil was a mere coating over the rock and the ground was firm to the foot. Several times the reptile-men nearest us (never nearer than ten feet) turned to stare back, but whether from mere curiosity or not we did not know. We were desperately determined to stick to these creatures until by some means or other we succeeded in persuading them to guide us back to the shore.

Our time was up. We had probably missed our scheduled return. And the vision of Mason's worried and panicky countenance did not help my peace of mind. If we succeeded in getting back to the ship within the next few minutes, he said, there was a chance for us—not much of a chance, but at least something. And failing that—how could we survive a year in this unfriendly fog?

We had been walking under the trees for perhaps a quarter of an hour when we came to the "village." The word is inaccurate, since even from the short glimpse we were permitted it could be readily seen that only the most primitive of habitations were grouped here. An opening carpeted with a curious long and tough kind of grass, in which rude nests had been trampled out. There were no roofs, although occasionally the grass walls seemed to be woven crudely together. It was as if the innate savagery of the beasts would not brook the indignity of socialization without at least the artificial privacy of grass walls.

But we were stopped at the outskirts of the clearing. The warriors confronted us in a determined semi-circle, and we paused to observe our surroundings. Haworth stepped forward a pace and made a sweeping gesture of invitation in the direction from which we had come. The reptile-men eyed us without reply. He repeated his gesture. Then one of the females in the rear began to hop up and down excitedly and make high-pitched squealing noises. Several others around her imitated the example.

Mason and I had our rifles ready in an instant. Haworth looked more worried than ever and turned his pale, care-worn face toward us as if he wished to speak but just then there was a sharp grunt from inside the closed ranks before us. Out stepped our old friend the chief. He walked slowly up to Haworth and placed one hand actually on his breast. Then he gave a gentle push and backed away a step. Why he chose Haworth I cannot say, unless because of the distinction of his flowing beard.

Haworth stood staring at him, thinking hard. Mason and I stepped forward one on each side of him. Things looked dangerous.

"What will we do if they advance on us?"

"If they do that, perhaps we are saved," was Haworth's surprising rejoinder. "Say nothing, but do as I do."

And then advance they did—the whole line slowly moving, with the chief in the center of it. Mason grasped my arm and we three stepped back a pace. The reptiles stepped forward another stride and we kept our distance. Soon we were walking at a normal gait, surrounded on three sides by our unwitting guides. In a surprisingly short time we had reached the edge of the woods, and here the reptiles promptly turned about and started back.

"After them, quick!" said Haworth. And we did.

In a few minutes the reptile-men halted and again faced us—a trifle uneasily this time, I imagined. Again the chief stepped right up to Haworth and gave him another push. Again the tribe slowly advanced and we retreated before it. This time, however, they seemed determined to finish the job. We were evidently unwelcome, although not enemies. Right out past the woods we proceeded; past the clump of three trees and into the pathless sea of mists. In twenty minutes we sighted the shore before us and I half-turned towards our guides, feeling in an indefinite sort of way that we could now dispense with them. But they had other ideas. Right down to the water's edge they drove us and then stood there determined to see us depart.

Mason was already wading out to where our canvas boat still rode at her line—not more than twelve feet out. He reached it waist deep and towed her back to the rocks, climbing out of the water and shaking his legs. Then as Haworth and myself stepped into the frail craft and sat down, he made a gallant bow.

"Thank you! If you only knew how much we wanted to get back here, you would have done this in the first place. Farewell my friends, and don't forget that some day men like us will return to Venus. If they try to buy your village for twenty-four dollars' worth of dinosaur meat, don't be surprised!"

With which reflections he took his place with us in the boat and we pushed off from shore. The reptile-men stood quietly until the mists swallowed us up. I was rowing and the sea was quiet, with slow oily swells lifting us and lowering us regularly. Along the shore we went and then struck out toward the tall shadow we knew was our rocket ship. We had been away more than thirty hours—how much more? Were our watches trustworthy? With all the speed possible to our bodies—weary to our bones and experiencing the inevitable reaction from all our exertion and strain, both physical and mental—we climbed the rungs up the side of the *Asteroid*, leaving the little boat tied at the bottom. Mason burst through the hastily opened air-locks and stopped, as though the life had been drained out of him.

The ship's clock read 103—18:36. We were over one hour too late!

Once inside, with the doors shut and the refrigerators on full blast we stripped off our sodden, grimy clothing; washed ourselves copiously, with reckless disregard now for our water supply; donned dry garments and felt ravenously hungry. I have noticed that many times. Go through a time of danger, even if it be unaccompanied by physical exertion, and the body demands nourishment. In silence we ate, but we made a thorough meal. There was fresh meat miraculously from the refrigerator, crisp biscuits from the sealed tins and a long cool drink of whiskey soda to top it off. Above all, the blessed cool, dry air of the *Asteroid* was delicious to our steamed and soaked bodies. We were hopeless, perhaps, but very comfortable. I don't remember when I fell asleep.

THERE is one peculiar psychological result of travel to other planets, and that is that it gives one an awareness of the exact appearance of the familiar upon returning. I lay in my bunk when I awoke, very pleasantly aware that I was safe for the present and entirely comfortable. My skin was bruised and my muscles were tired, but in a dreamy lethargic fashion not at all unpleasant. The details of the living-cabin were unnaturally clear and sharp to my eyes. That peculiar roundish corner where the pump-room floor joined the ship hull, the flattened sides of the little control levers beside me, the garbage-door above the stove, with its not quite square outline—everything seemed slightly unfamiliar and made a sharp clean-cut impression on my senses.

This I attribute to the fact that for thirty-odd hours we had seen absolutely nothing that was familiar. Every leaf, every rock, every pool of water must be watched. It might represent some danger or prove a valuable discovery. Our eyes and, in fact, all our senses had been strained to examine everything with the utmost care. Upon returning to the familiar scenes aboard ship this faculty of awareness persisted for a little. Not since my earliest recollections of childhood, when nothing is entirely fami-

We had leisure to make a thorough observation of the hidden side of earth's satellite.

(*Illustration by Paul*)

liar to one, had I experienced such a sensation. It was altogether agreeable. I seemed to be in a new and fresh existence. It so invigorated me that I could lie still no longer, but arose briskly and wakened my companions noisily.

Mason was on his feet in a jiffy.

"The minute I can get something to eat, I must see if a return course cannot still be figured."

I had forgotten, all this while, our desperate circumstances. Mason's words plunged me into the depths of gloom once more.

"Our return! You will have more than a year to figure that to your heart's content!"

"Perhaps not!"

"What do you mean?"

"There's just a chance we can still make it." (I made an exclamation.) "Just a minute! It's only a chance . . . The trouble is it will take at least a week to figure out. Oh, why didn't I prepare some figures for alternate return dates? I had long months of leisure and I simply wasted them!"

But his words put new hope in me.

"Do you really think we have a chance to start back in a week?"

Mason, already busy at the stove, grunted out what I took to be "I think so" and went on silently with his preparations for a meal.

Haworth had not yet risen and being questioned described himself as not feeling at all well. I got out a thermometer and stuck it at a rakish angle in his mouth.

"You can stay there for a week," I said, "and recover your strength. It will take Mason that long to figure out whether you can be sick for a whole year more or have to get well suddenly."

Upon removing the thermometer I was alarmed to see that he had a temperature slightly over 100 degrees. His pulse was weak and, generally speaking, I considered his condition rather serious. Mason had by this time prepared boiled eggs and coffee and we tried to get Haworth to eat some, but after one spoonful he refused any more.

Mason and I discussed our situation out of his hearing, in the pump-room.

"You nurse him," said he in conclusion, "and I'll chart a new flight curve."

Mason was to be brought his meals and left entirely undisturbed while I was to run the ship. I left him hard at work and descended to sit beside my patient. All that day Haworth lay in his cot. I played cribbage with him and read from the Encyclopedia (how I wished for an amusing story!) and he seemed to be recovering his strength satisfactorily. After fifteen hours Mason descended and we put out the lights in the living-cabin and went to sleep.

Haworth woke us. He was sitting bolt upright when I switched on the lights and reciting poetry in a loud voice, his beard wagging wildly on his chest. Badly mixed and garbled verses he spouted—Shakespeare, Milton and Rudyard Kipling. We would have been amused had it not been so frightening. Hour after hour we worked over him, trying to quiet him. But we had to strap him down to his cot in the end and I gave him a shot of morphine from the medicine cabinet.

We arose after a few hours of broken sleep and Mason resolutely went up above to continue his mathematical labors. I sat beside Haworth and worried desperately. His temperature was 104 degrees. I had no sort of notion what was the matter. Possibly some sort of strange fever he had caught from the Venus jungles—indeed, what might it not have been?

He wakened after a few hours and was quite out of his head. I brewed some strong tea and squeezed lemons into it. This I forced him to sip as often as I could. It would at least allay the fever temporarily. But he grew worse all day and it was again necessary to quiet him with drugs.

"To Heaven," I heard him mutter. "To Heaven in a rocket."

I had no one to turn to in my perplexity. Mason knew absolutely nothing about medicine and the Encyclopedia was not illuminating, although I spent several hours searching through it with the vague notion that it might have somewhere in it the necessary information that would save our friend's life. Yes, by now I was doubtful if he would recover.

When we slept next, I lay tossing in my cot, rising silently every hour or so to creep in the darkness over to his cot and administer some cold tea. I had of course plenty of quinine, but the first dose of this usually sovereign remedy had caused such a violent retching that I did not dare repeat it.

Finally Mason awoke and switched on the lights. This was our "morning" on the space-ship, and this morning was a sad one. Haworth did not waken. He lay breathing softly and with his eyes sunk deep in his pale cheeks. I could scarcely eat and noticed that Mason had some trouble in swallowing his food. We did not exchange a word. There was nothing to say. He slowly climbed up to the room above and drowned his fears in the concentration of his work. I had no such sedative, but sat despondently on my cot thinking soberly over all that had happened in an effort to solve the riddle of this strange illness.

The attack of the insects, naturally, came to my mind. But that had been so many days ago—surely any poison that might have infected their bites would have had an instant effect? Yet I could not with reason blame any other agency. What weird things they had been! "Mosquitoes", Mason had called them. Mosquitoes . . . what if they were like our earthly insects in this one thing? What if the "poison" they carried was a disease with which they inoculated their victim, like the yellow-fever mosquito?

"Why then," I exclaimed aloud, "I would inoculate him with immune serum from Mason or myself, who recovered!"

AND I was up in an instant and over to the medicine cabinet where I seized an aseptic syringe and, plunging the point carefully into my forearm, drew it half full of blood.

"Come," I thought, "this is not the way to do. There must be no blood in the serum."

Then I paused with the thought that this whole idea was a tissue of imagination without any facts behind it. Should I continue? How should I proceed? I pondered for five minutes and had answered both questions. First I *would* inoculate Haworth. If the disease had been caused by the huge "insects" or not, there was nevertheless a probability that I had been exposed to the same illness he had, wherever he had got it. Therefore I, being well, might have immune serum in my blood and, remote as the chance might be, I had absolutely no other possibility of treatment.

As to the serum, I had an idea. I turned on the stove and placed my left hand, palm up, very firmly upon the hot metal. An instant of pain was sufficient and I promptly treated my new burn with oil and dressed it carefully. In an hour I had an enormous blister on the back of my hand and drew off a full syringe of clear serum. This I injected into my patient's right arm.

All this may sound a trifle heroic, as I write it here.

The actual fact was that it hurt very badly for only the first few minutes and during those minutes I wished very strongly that I had not thought of this means of obtaining clear serum. Once done, there was of course nothing heroic about continuing the operation.

I was restless and Haworth remained unconscious. So I climbed up into the pump-room and opened the air-lock, sitting on the floor of the vestibule with my feet dangling over. After the comfortable coolness of the *Asteroid* the air of Venus hit me like a warm wet sigh. Dim in the surrounding mists I could make out the shore—jungle and mud. Occasionally the visibility would increase as the wind freshened and at such times I could see on the right the line of rocks where we had landed.

I mused upon our exploration of Venus. In all, I thought, we have covered less than one square mile of land. In that "explored" territory we lost ourselves three times. We had observed a few species of reptiles and half a dozen kinds of trees—mainly cycads. Now we are frantically preparing to leave, if we could. I was, perhaps, unjust, since we certainly had traversed some thousands of miles of water and this might be termed exploring the planet in a sense. Certainly we had determined the fact that a large portion of the surface of this planet was liquid.

I gazed down upon this water as I sat there and saw the waves had risen considerably. Our ship was not affected by them, since she was firmly aground on the mud beneath. The breeze seemed to be increasing and as I sat watching a furious gust came along. The mist swirled and thinned out and for two minutes there sprang into view the entire coast before me.

I shouted for Mason and he came instantly to stand beside me in the narrow vestibule. Half a mile away on the low slope of bare rock stood our three tree-ferns and back of them the line of forest.. The mists cleared still farther and we saw for an instant miles of landscape—great hills rising in the background, dotted with verdure. The light increased more and more. We followed the line of hills up until they lost themselves in the mist, but I distinctly saw a golden glow over them as if the sun had sent its rays through the enveloping atmosphere to point them out to us. It lasted an instant, like a promise, and then the mists closed out the hills and we saw nothing but the miles of rocks and jungle. Then the wind slackened still more and the fog closed down until we could barely make out the nearby shore.

Mason gasped, as though he had been holding his breath throughout the whole revelation.

"That might be a place worth visiting!"

I agreed.

"On the top of those hills the sun might occasionally shine. Not too often, for it would then be intolerably warm, but enough to let a man see where he was going."

"Why would it be so warm?" and then I answered my own question. "Oh, of course, we're thirty million miles nearer the sun than the Earth is."

We sat in thought a moment. Then I told him my fears for Haworth and the means I had taken.

"If he shows no improvement in another hour," I added, "I am going to inject your serum. Whatever disease he may have, it might have passed me by and touched you."

"Suppose he was the only one to be favored?"

"If it affected him alone, then I don't think . . . I'm afraid . . ."

I left my sentence unfinished. Mason frowned terrifically and passed his hand over his forehead. We went inside and closed the doors, for it had already become uncomfortably warm in the ship. We turned on the refrigerators and soon were cool again. He sat down once more to his work and I descended to the living-cabin.

Haworth was still unconscious and seemed weaker—too weak. His pulse was barely detectable. In desperation I filled a glass of whiskey and poured it between his lips. In a few minutes his pulse was stronger and then, suddenly, the sweat came.

I knew what that meant. The fever had broken!

I wrapped him in blankets and strapped them over his body and called up the good news to Mason, whose face promptly appeared in the hole in the ceiling. He was smiling broadly once again.

CHAPTER XI

Back to Earth

THERE is no need of detailing the steps to recovery. Haworth was ravenously hungry when he woke and I found my job of cook to the ship no sinecure, what with my burned hand. Mason left his figures long enough for one game of cribbage with our patient and spent the rest of his time up above in a very fury of calculation.

"How are you making out?"

"You know, we have a chance—just a chance."

Eight earthly days passed with the same report. Haworth was steadily improving all the time and was more or less up and around when we heard a shout from above. Mason climbed down and joined us in high spirits.

"We start home," he said, studying the clock, which read 112—6:13, "in three hours and twenty-four minutes!"

I uttered a shout of relief and joy.

"But how can we manage to connect with the Earth this late?" objected Haworth. "Venus travels so much faster than the Earth, that we must be past its place in its orbit by now."

"We are," retorted the mathematician, "but only just past it. We have to lose an excess speed of about ten miles a second, in order to land on the earth. Our fifty per cent reserve of fuel will do this nicely. We calculated on seven miles a second, you know."

"But if we plan to use all our reserves, aren't we taking a considerable chance?"

Mason shrugged his shoulders.

"Let's be glad we have a chance to take. Would you prefer staying here a year?"

"God forbid!"

Haworth was almost recovered by then. The past few days had done wonders for him. He declared himself ready to take command of the *Asteroid* on her return voyage and with the words scarcely out of his mouth he was clambering up to the pump-room, where he spent the next three hours scrambling about the machinery—testing and checking. Everything was exactly as it had been, but that was his way— and not a bad way at that, perhaps. It seemed so good to us to have him up and about, that he might have had I know not how many unusual habits, they would have all appeared sensible and desirable. I mention this, because usually it irritates me to see someone take unnecessary precautions, and to check and recheck the already correct.

We spent a final five minutes at the vestibule door, looking our last on the face of Venus. I do not know exactly what we had expected from our trip. Visions of miraculous discoveries, smiling fertile landscapes, perhaps gold and other precious metals lying about in abundance. But certainly we had none of us expected just what we had found.

As Mason put it: "We could have filled Madison Square Garden with live steam and sat in it for three weeks to about the same advantage! Not only that, but we would have known where we were all the time, in that case!"

But in spite of disappointments, there was a feeling of accomplishment which we all shared. There were few thrilling discoveries, it is true, but just the same we were the first of the human race to visit a planet other than our own. Some day these vague inhospitable shores would be made habitable. This spot where our ship lay grounded in the shallows would be historic. I had my camera with me at the doorway and made a photograph, a print of which is before me now. Dark water and darker jungle and the white fog over all.

We closed the doors and screwed them fast and made our way to the cots.

"Ready?" called Haworth, his hand on the starting lever.

Mason and I turned to our duties and felt the ship lurch as the power was applied. We were pressed deeply into our cots and our bodies were heavy under the steady acceleration. The dials moved slowly and the misty surface of the periscope glass grew brighter each moment.

Suddenly the mist vanished and bright sunlight almost blinded us.

Mason twisted the controls until we had located our objective, a small star in a peculiar triangle formation, and then Haworth made a warning sign to us and turned on the power to full acceleration. Now we felt the pressure severely. I could hardly move my arm to the controls and, lying on my back as I was, it was exceeding difficult to raise my head. There was, however, very little to be done so far as I was concerned. My two companions had most of the control mechanism in their charge and seemed to manage well enough, although they perspired visibly with their efforts.

It lasted only ten minutes or so. The noise of the rocket exhaust had increased to a deafening roar when the last section had been dropped off and the sudden silence came like a blow. Haworth was not quite quick enough in starting up the gyroscope and I was overcome with nausea as my body was suddenly left weightless.

When I had in a measure recovered, Mason was standing over me with raised eyebrows.

"This time you can clean it up yourself. Do you good!"

I complied weakly, and really felt better for the exertion.

The floor was now our partition wall, for the rotation of the ship about her line of flight had again set up an artificial gravity outwards in all directions. I observed that the speed indicator and other instruments no longer registered, for we were entirely out of the atmosphere of Venus. We were coasting freely at almost ten miles a second back to Earth! How eagerly we looked in the periscope glass as Mason brought into view our home planet! There it stood, a pure white ball of minute proportions, although larger than any of the stars that glowed so much more violently around it. Then he turned the ship until Venus swung into line and we saw the huge surface we were leaving, all glistening on one half where the sun struck it slantingly and a dirty grey-black on the shadowed portion. But white or grey, it was all the same blinding mist—the curse of the planet.

And now if I am to be kind to my readers I will spare them the details of the next ninety days. After our hardships upon Venus we were mentally and bodily exhausted and quite content for some weeks to rest in complete sloth. Then we felt the need of amusement and occupation and I, for one, passed the time very pleasantly by working my observations and specimens into the form of notes. Then I had a number of photographs to develop and print and additional astronomical pictures to take. I did not hurry my tasks and interspersed my working hours liberally with less serious occupations. Our cribbage tournament was revived and we even became interested in three-handed auction bridge for a while. Mason and Haworth were equally well occupied. We knew what to expect and were not too impatient. But hardly a single detail of this period stands out clearly in my memory.

Venus and all we had seen there had become a dream. It was difficult to believe that we had really been there. We seemed to have been living forever in this space ship, adrift in the abyss.

IT came as a distinct shock when Mason announced from the periscope that the Earth was growing visibly larger. But a glance at the ship's clock showed 189—2:57. We were due to land in less than two weeks! We clustered about the glass, observing with delight our native world. She showed about three inches across, like a tiny moon. And in fact her own moon was now distinctly visible, a gleaming disk three-quarters of an inch in diameter. And of exceeding interest to Mason this moon was, since the hidden side was exposed to our view and brightly lighted.

"It must be a new moon on Earth," said Mason and no remark he could have made would have brought to me more clearly the fact that we were wanderers in strange places.

We had the leisure to make a thorough observation of the hidden side of the Earth's satellite during the next week and Mason was vastly busy making notes, while I took photographs at his direction. Full details of his findings are of course available to the interested reader in his recently published monograph on the subject. And as all the world knows by now, nothing essentially different exists on that side than on the other. On the voyage out, we had been able to see a small sector of this unknown portion, but not until now had we such leisure and opportunity to make a detailed observation.

As the days passed the Earth took on additional form and detail. It was a glorious sight to our eyes! And a last look in the other direction showed a tiny dot of soft white light—all that could be seen of Venus. Soon I thought, we shall gaze on her from the Earth and see not the familiar evening star, but the cold unwinking eye of a reptile-man, or the baleful orb of *Dinosaur Tyrannus Rex!*

But Haworth was busy preparing for our landing manuvers, and I was sufficiently familiar with these by now to take an intelligent interest. When we had shut off our motors after leaving Venus we had exhausted the fuel of the second step of the *Asteroid* and discarded it, continuing our flight in the small eighty-ton third step formerly contained in its nose. It was in this small ship, of course, that the controls and cabins were centered. The fuel of this ship, in turn, had been almost entirely exhausted so that it was necessary, as Haworth pointed out, to make a perfect landing.

"For if we don't," he said, "we have no power left to rectify an imperfect one."

He had already turned the handle and set the pumps to work projecting our wings. This required practically no effort while we were still in space. It could have been done by hand, had that been necessary.

"I believe," he said, "we will endeavor to commence our landing circles at the equator. Then as we slacken speed we can verge northward, consequently shortening our circles. We will have to land where we can, of course, for we have no power to waste choosing a suitable spot."

I suggested that we would need to land in water and for that reason might do best to land near the equator line, for in this zone much more water occurs than land.

"And," I continued, "if any change be made from the equatorial circle, why not southward, for a less proportion of land exists in the southern hemisphere than in the northern?"

Haworth agreed with me, after a moment's thought.

"However," he added, "I believe we can find either the Atlantic or the Pacific Ocean easily enough and on the other hand, have you ever thought what might happen if we landed in the South Atlantic, thousands of miles from the ocean traffic lanes? One can be very thoroughly lost even on our own familiar Earth, you know."

This was true, of course, but I confess that any part of the Earth whatsoever had seemed safe haven a moment before he spoke.

"The northern hemisphere, in the temperate zone, is much the most civilized portion of the globe. As to a landing place, we might even be lucky enough to reach Long Island Sound—or perhaps even our little lake in Connecticut. And the Great Lakes have distinct possibilities, as well."

It may sound strange to hear a planet some eight thousand miles in diameter discussed in this fashion. But following this conversation I went to the periscope glass and gazed for many painstaking minutes before I could be sure I recognized the dark line that was the Mediterranean Sea!

Our landing maneuvers were to be the same as before: We entered the atmosphere at a high altitude (about seventy miles) and the air was so rare at this height that even our speed of almost five miles a second did not cause sufficient friction to endanger our ship. Our wings turned in a small arc, so that at first they were used to hold the *Asteroid* down towards the Earth, for our terrific speed tended to make us fly away again into space. But we used the wings to force us around the globe again and again in a circle.

We circumnavigated the world in less than an hour and a half at first. Then the friction slowly lessened our speed and permitted gravity to affect our course downward. Then the wings were inclined the other way, so as to support us in the air. As our speed lessened we descended still lower, until at last we were traveling at about two or three hundred miles an hour and ready for a landing, similar to that of a fast airplane. At such a speed a landing was difficult, but if made in smooth water our staunch metal hull would protect us from damage.

The whole maneuver went through exactly as planned. Haworth and Mason were at the controls as before, and the operation required some seventeen hours to perform. We entered the atmosphere of Earth at 202—0:14 by the ship's clock.

I could observe the periscope glass from my cot, except for occasional moments when Mason's head was in the way. The Earth had long since loomed up until it filled half the entire sky and as we entered the atmosphere I could see oceans and continents sweep by beneath us like a panorama designed by a madman. The strain and worry was visible on Mason's frowning face and Haworth clawed nervously at his black beard half the time. I myself was without special duty for the most part, although for a five-hour stretch I relieved Mason at the periscope.

"If we could only make a landing somewhere near the United States," Haworth was repeating over and over to himself.

Mason laughed.

"It would be a fine thing if we ended up shipwrecked in the middle of the ocean! Do try and land in New York harbor, old man! Near Quarantine, if you can, for I understand they are most particular down there about vessels arriving from foreign ports!"

For the last two minutes I relinquished the periscope controls to Mason. We were over Spain at the time and traveling west at less than two miles a second. Haworth was jubilant.

"We'll just about make it," he prophesied.

And we did. We had been scudding over the Atlantic for an hour and a half, at constantly lessening speed, when I noticed that the surface of the water showing in the glass had become more detailed. Instead of a smooth sheet of lead-colored matter, separate ripples were now discernible. Then the ripples grew into small wave lines and these enlarged until the familiar seascape spread before us not a mile below.

"Hold fast!" warned Haworth.

We all made sure of our fastenings and positions.

Suddenly the waves loomed up swift and huge in the glass and a great white splash wiped out all vision. At the same time the *Asteroid* gave a terrific lurch and rolled over and over several times. Then all was still once more, except for a strong steady heave of the vessel in the trough of the seas. Our cabin was now as it had been several times before: Our floors had turned into the circular hull wall, for the ship floated upright. None of us had been hurt in the slightest, but the cabin was a chaos, for the kitchen cabinet had burst open and the Encyclopedia Britannica was indiscriminately mingled with pots and pans and a thoughtlessly open can of photograph-developing fluid!

The ship's clock read 202—17:02. The voyage was over.

We climbed, the three of us, up the rungs on the water tank, through the opening in what was now our ceiling, and into the pump-room, now above us. Mason wrenched at the lever and flung open the vestibule door. I darted into the vestibule and opened the air-lock door to the outside world. The ocean breeze was full in our faces and filled the cabin with a delicious odor. It was unbelievably invigorating after six months in artificial atmosphere, and three weeks of Venus' steamy air, impregnated with chlorine. We crowded in the tiny entrance, arms about each others' shoulders, and breathed it in as if we could never have enough.

THE rest is history. Everyone within reach of a radio or newspaper knows that Captain Turnbull of the British tramp-steamer *Gardenia* picked us up a hundred miles east of the Long Island coast. Haworth offered him enormous largesse if he would tow the *Asteroid* into New York and we even lived aboard our own little vessel during the twenty four hours this required, (the wind was quartering against him). The captain, good man, left the management of his own ship to his first mate when he found out what was afoot, for he was aboard our vessel most of the short trip, staring open-mouthed at one or the other of us, listening and asking questions.

The *Gardenia* had a radio on board and it had been in frantic use, evidently, for when we reached New York harbor the official city tug met us and we were constrained to leave the *Asteroid* in charge of Captain Turnbull and be officially welcomed by the City of New York. Haworth arranged that our rocket ship would be anchored in an inaccessible section of the harbor and well-guarded and that we would come back for her later on. Then we went with the officials.

Many of you who read this may have seen us riding through bedlam in an automobile that day and wondered what we were thinking about. For myself, I was think-

ing how happy I was and how glad and good it felt to see a million or so human beings once again—particularly since they seemed glad to see me! We couldn't have had too much fuss and noise to suit my taste just then—although I will admit there is a limit to all pleasures, as we have since found out.,

One more scene and I am done. A few nights ago, Dr. Mason and myself dined at the Charles Bascomb Haworth mansion in Connecticut at Mr. Haworth's special invitation.

"Bigelow," he said, "your moving picture films and photographs have been sold on a royalty basis to a well-known syndicate."

I nodded.

"Do you know what the royalties have amounted to in the single month that have elapsed since our return? Over two and a half million dollars!"

I suppressed an exclamation and Mason looked up with raised eyebrows.

"I have estimated the entire cost of the *Asteroid*, including all test flights, and find it amounts to very little more than that sum," continued Haworth. "It is certain that in a few months more, what with further royalties on the pictures and the income from your book and Mason's scientific writings, we will have a substantial income above all costs of the expedition. This, naturally, we share equally."

So the voyage to Venus, barren of treasure as it seemed at first, has finally resulted in modest wealth for us all. I have bought over the ownership of *Lens and Bellows* and find I have made a very comfortable investment. Mason and I still live together, though he talks of starting off for the Mount Wilson Observatory next month to spend at least a part of his sabbatical year as originally intended!

Haworth, as the world knows, has buried himself in his Connecticut estate. What is not generally known is that he is working. He says he has an idea and Mason and I find it uninteresting to visit him, for his time is spent entirely in his study where he sits brooding over books, stroking his beard the while, or pacing the floor in deep concentration. As Mason says, "Of course we are welcome to go for walks with him—the length of the study and back! But I'm tired of being confined to rooms."

With the enormous mass of public interest directed upon the subject, it is not surprising that as I write no less than three space ships are building. Both the ships of the German Interplanetary Society and the French Air Corps are designed for voyages to the moon's frozen surface. The American Interplanetary Society (their membership jumped to 50,000 last week, I am told) plan a vessel to visit either Mars, or Venus for a more satisfactory exploration. All three of us have been invited to take places—in fact to assume leadership—in this expedition.

It would be idle to say that I am content to remain in comfort here forever. It is good to be back, of course, but there is something very irritating to me about the half-finished nature of our exploration on Venus. With fog-piercing searchlights a very great deal may be possible on that planet. The General Magnetic Company has been good enough to turn their laboratories to work on this problem. If they succeed and if a ship is available—well, I won't say what might eventually happen. But that lies in the bosom of the future.

THE END

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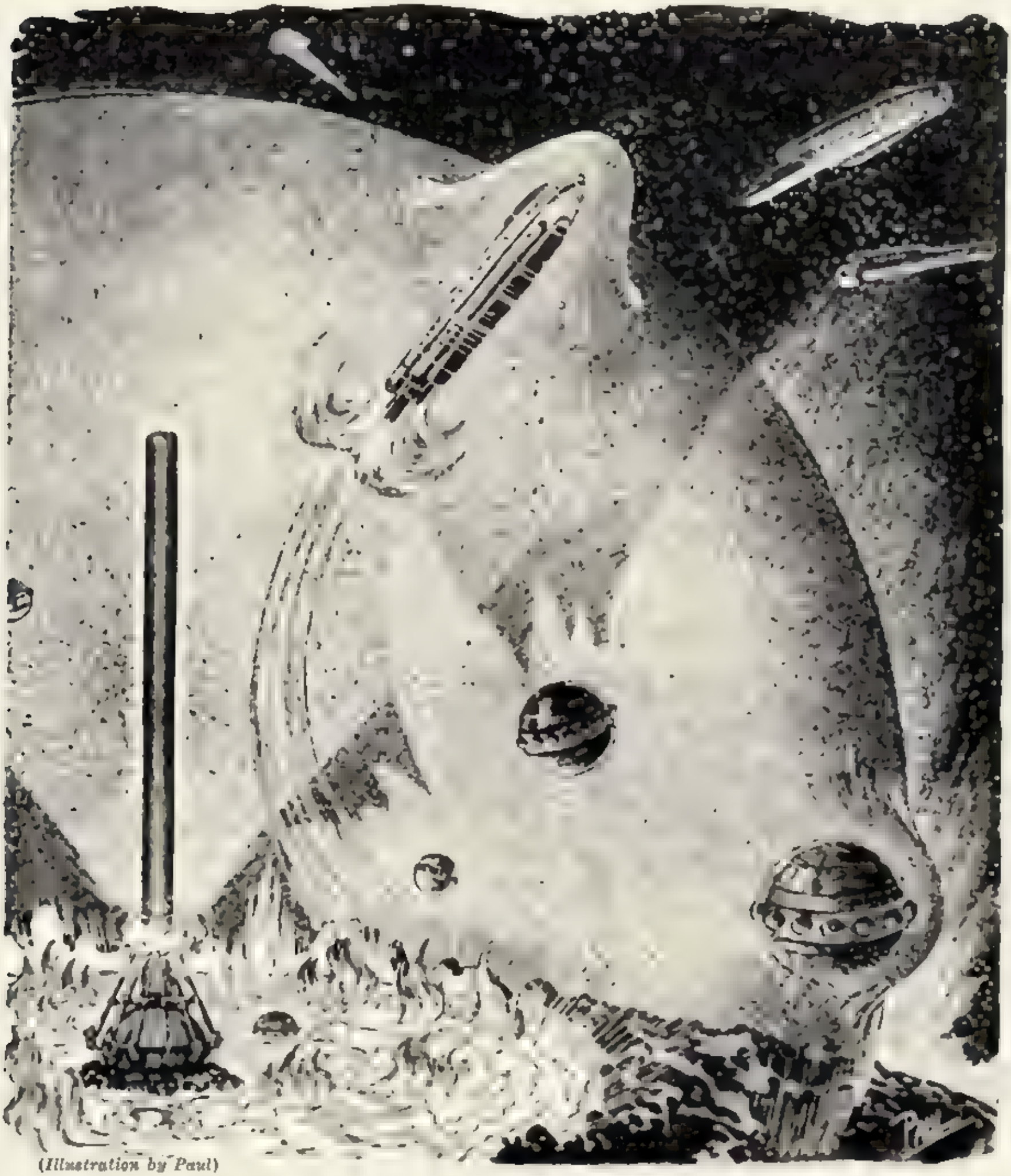

(*Illustration by Paul*)

Some caged jungle beast, the *Thelon* rushed about her prison furiously attacking the seemingly fragile veil of light that held her in.

THE MENACE FROM MERCURY

Based upon the Seventh Prize Winning Plot of the Interplanetary Plot Contest won by John Michel, 1094 New York Ave., Brooklyn, N. Y.

CLIVE TORRENCE sauntered leisurely along the enclosed promenade deck of the space liner, *Thelon*. His big, well-proportioned body moved forward with a studied, lazy grace. Clive was happy, for he was free.

He had been granted a two month's leave from his post as engineer in the iridium mines of Neptune's satellite, and had promptly come sunward, for he was sick of the dark and cold and loneliness of that far-flung outpost of the solar system. He hated the owl-eyed men who had been under his direction. And in return they had hated him, not because he was unnecessarily cruel, but because he was a native of the imperialistic inner planets. On two occasions only the quick use of a ray pistol and a heavy lash had saved him from death at their hands. He could forget that life now—for two months—two months!

Arriving on Earth he had immediately booked passage on the *Thelon*, which was going on a sight-seeing cruise around the sun. His decision was based partly on impulse; Clive liked to give his impulses free rein, for this would aid him in convincing himself that his freedom was real. Another reason was that the *Thelon* was under the command of one Pakoh, an odd little Martian with whom Clive had become intimate during a year of study spent at Oktool, Mars.

Now there was an unmistakable feeling of tension aboard the *Thelon*. The passengers, for the most part college students of Earth, taking their first vacation trip out into space, lined the broad, quartz glass observation bays of the promenade. Their youthful, fun-loving vivacity seemed strangely subdued. Only an occasional low and rather perfunctory laugh at some light joke told of their attempts to remain carefree. Their expectant attention seemed riveted searchingly on the void. True—there was nothing unusual to see—only unwinking stars, and blackness. However, something definitely unusual *had* been seen, and it might appear again.

All that had been learned of it in the brief moment that it was visible, was that it was round and large and alien, and moved with darting flitting movements. Its aspect seemed definitely sinister but this might be only because it was a mystery. And there was a rumor around that certain radio messages had been received by the ship.

Clive Torrence did not share the fears of his young fellow passengers, for, not without reason, he looked upon himself as a hardened and experienced adventurer.

His apparently pointless stroll had a definite objective. Without haste he threaded his way through the modernistically dressed throng, now and then nodding and smiling to an individual with whom he was already slightly acquainted. He came at last to a short spiral stairway, at the foot of which stood an officer clad in a white uniform. This man, an Earthman as were most of the crew, already knew of Clive's relationship to the *Thelon's* captain.

"The Chief's been wondering when you would appear, Torrence," he said with an attempt at lightness. "Go on up. He has news for you."

"I hope it's bad," Clive replied with an unaffected chuckle of pleasure. He was thoroughly enjoying the little mystery which seemed to have everybody so buffaloed.

Ascending the spiral, Torrence entered the airy coolness of the control room. It was a place of perfect order, and yet of bewildering complexity. Its white walls, tinted softly by the green rays of an illuminator set in the ceiling, were lined with levers and gauges, and television panels that gave views of surrounding space in all directions. A few glass globes glowed eerily among spidery mazes of metal cables.

When Clive made his quiet entrance, the tiny Martian

JOHN MICHEL
Who furnished the plot

RAYMOND GALLUN
Who wrote the story

TODAY the university student does not feel his education complete unless he travels to other lands and observes peoples, cities and customs different from our own. Why not then, when interplanetary travel has become a reality, the "interstellar tourist cruise." Young men fresh from schools will taste of the vastness of space, and the far reaches of the sun's domains.

But these youngsters must not expect such cruises to all be picnics. No matter how well explored the sun's planets, there will always be mysterious beings, mysterious forces, and strange events to add the flavor of danger to such interstellar tours.

On the surface of sun-baked Mercury, the nearest and the most eccentric child of the sun, this story is laid. It is prophetic for its vision of what the tourist of the future might expect.

captain's back was toward him.

Apparently unnoticed, Clive watched Pakoh. On the Earthman's face there was a strangely mixed expression; part sly amusement, part puzzlement, part awe. Pakoh was barely four feet tall. The breech clout of fine-spun metal cloth which he wore, left most of his gnarled and dried physique revealed.

To look at him as he worked over his mechanisms, darting from this instrument to that, turning dials and adjusting levers with quick efficiency, made one think of things—of the shuttle of a busy loom, of waterless deserts beneath a hot though shrunken sun, of something ancient, unknowable, and all-wise—like the Sphinx.

Pakoh was close to three hundred Earth years old, which is middle age by Martian standards. The skin of his thin limbs and expanded torso was brown and wrinkled, and was scarred by acid burns of an accident which had happened years ago. He seemed like a battered and hideous antique doll, or like a bit of dried and crumpled leather such as one might find in the dusty corner of a tomb.

TORRENCE reflected that there were things about Pakoh, and all his kind, that were perhaps too simple to understand. That silly little round cap he was wearing, for instance. It covered barely a square inch of his bald pate, and certainly served no sensible purpose, yet Pakoh would sooner go among bloodthirsty savages unarmed than be without that diminutive, and thoroughly impractical piece of headgear.

Without turning to look, yet evidently well aware of the identity of the person who had entered his sanctuary, Pakoh spoke. His words were English, and his voice was high, piping, and sibilant. "You have finished your little nap, Clive Torrence?" he asked. "I would have sent for you, only you sleep so sound, so like a baby, so *lurrane* (a caressing, exotic trill to the Martian word) that I have not the heart to wake you."

Amused as he always was at his small friend's quaint speech, Torrence laughed lightly. "You needn't have been so considerate of me, Gnome," he told him. (There was no disrespect in the nickname by which he commonly addressed Pakoh.) "But what's it all about anyway? Drayden said that you had learned something new. If so, out with it!"

Pakoh remained silent for a moment while he made some final adjustments of the controlling machinery. The ship lurched, seemed to change its course slightly, and the sound of the rockets, coming distantly from the rear, rose and fell. Then it settled down to an even hypnotic purr. There was a slight pressure of acceleration. A red signal light glowed on a control panel, and Pakoh moved a switch. Satisfied, he turned to the Earthman.

Pakoh's pinched and wizened face was as ridiculously serious as that of a small monkey. "Queer lights are seen on dark side of Mercury," he said. "They flicker, go out, burn again. The *Thelon* is nearest to Mercury and I am ordered by radio to investigate. So we go; arrive in six hours. You would see lights?"

Without waiting for an answer the Martian strode to a television panel which was connected by a cable to the receptive "eye" or retina of a telescope that was situated in a glass-roofed chamber far overhead. The telescope could be moved on its mountings, and focussed, by remote control from the brain center of the craft. Pakoh turned dials questingly, and after a few seconds a thin yellow crescent emerged from the blurred glow that had clouded the view panel. By the simple pressing of a small switch the Martian set in operation the apparatus which radioed the pictures out into space so that they could be picked up at all points within the orbit of Jupiter.

The two watched the darkened portion of Mercury for a considerable time before they detected anything unusual. Then, suddenly, midway between the limbs of the crescent, a tiny point of white light appeared. Very slowly it grew, seemed to spurt and plume upward. For perhaps fifteen minutes it continued to expand, then gradually the light dimmed, became a cloudy red and faded out entirely.

Torrence and the Martian exchanged puzzled glances. "What can it be, Gnome?" the former asked. "Volcanic action of some kind?" His voice was hushed and husky with suppressed excitement.

"No," replied the Martian, "Mercury is nearly dead world. Internal fires turned cold ages ago."

"Then a space ship is wrecked there!" Clive cried eagerly. "Its crew is trying to signal for help! They are burning their rocket fuel!"

The diminutive captain shook his round head. "Not possible. Spectrum analysis does not bear out. Shows presence of vaporized iron and helium gas, not carbon, hydrogen and oxygen as in rocket fuels."

"Then what explanation is there?"

A slow elfin smile crossed Pakoh's wrinkled brown face. "The gods, the imps, the *Payanu* of space are at work there, maybe," he lisped cryptically. "Short time ago round thing come—maybe that is one of them."

"Rot!" the Earthman spat.

Clive Torrence had a wholesome respect for Pakoh's scientific knowledge, which was certainly infinitely greater than his own, yet apparently there were odd superstitious quirks in the tiny man's unfathomable mind. "Apparently" here, is a very necessary adverb, for it was hard to tell whether any Martian, and especially Pakoh really thought or believed a thing, or merely pretended to believe it.

Quite absently Pakoh had taken from a pouch at his waist a simple toy which he always carried. It consisted of a small flattened spool made of a very heavy metal. About the spindle of the spool was wrapped several yards of fine flexible wire, one end of which was firmly fixed to the spindle. In appearance and function the device was similar to the "jo-jo" toys with which Earth children of the first half of the twentieth century had played.

Following habit, and scarcely aware that he did it, for his mind was focussed on the problem of the lights on Mercury, Pakoh grasped the free end of the wire attached to his toy, and with a careless but precise jerk of his wrist, sent the heavy spool spinning out to one side. Like a darting serpent's tongue it flashed to the end of its tether, and by its rapid rotation rewound the wire and leaped back to his hand, only to be hurled out again in another direction.

PAKOH was prompted to play with his toy at such moments of his life which were comparable with those of a pondering business man or official of Earth, when he drums absently on his desk with his fingers. The little Martian's skill with the jo-jo was as superb as it was apparently pointless.

Clive Torrence scarcely noticed his friend's eccentric way of registering puzzlement and deep thought now, so used was he to it. However, in the past he had often wondered about the toy. Had Pakoh permitted it he would have liked to examine closely the heavy spool on which strange characters were engraved. Around the edges were sharp grooved spikes which suggested that it had a purpose more sinister than that of a mere plaything.

"Nothing to do but wait and see," Pakoh said after a long pause. "I have ordered men to keep a close lookout for round things. We will watch Mercury. Meanwhile you will have some games of *theld* with me?"

The Earthman nodded, grinning tolerantly. Pakoh touched a lever, and in response a small table folded out of an unencumbered portion of the wall. From a closet the Maritan produced two stools, a square board, the upper surface of which was painted with various colored and various shaped trapezoids, and a box full of queer, irregularly formed pieces of bone and polished hardwood.

Three hours passed during which the incongruous pair played five games of the involved and tedious *theld* of old Mars. Quite naturally Torrence lost them all. His skill was decidedly inferior, but that was not the only reason.

His eyes kept roving to the television view panel where the sword of yellow light that was Mercury constantly increased in size. Within the hollow of the crescent those unknown and unexplainable blots of fire waxed and waned.

Clive was conscious of a peculiar creepy, chilly feeling along his spine. It wasn't fear, and in a way it was pleasant, but Clive had his misgivings. Those lights—what did they mean? The adventure into which chance had thrown him was taking hold at last. Personally he wanted to see it through, but how about the passengers?

He broke in on a complicated train of thought which presently would produce a move that would win another game of *theld* for Pakoh. "Listen to me, Gnome," he said earnestly, "Do you think we have a right to take this ship toward Mercury with all those young people on board? For all we know there might be—well, something really dangerous ahead of us."

Pakoh looked up, and then chuckled shortly. "Officials of Earth Government order me, and I must obey," he piped. "Besides, what is there to fear? The *Thelon* is very fast, and we are armed—heavy calibre ray gun forward and aft to protect against such men and such things as are not good. The children? They love our little experience."

"I suppose you're right," Torrence said, staring at the *theld* pieces. Inwardly he told himself that the present situation might develop dangers with which great speed and powerful armament could not cope.

"It is time to give view screen and controls all our attention, Pakoh stated while he fumbled to put the *theld* paraphernalia away. "First we will have Cheka bring us food."

And so the *Thelon* hurtled on toward its goal. Gradually the sun, fiery white among the stars, like a gigantic electric arc, and ringed by the feathery frost-work of its corona, grew in size. Its radiations became more and more intense.

With the same, half eager, half fearful expectancy which had characterized them before, the passengers watched the void. And on distant worlds other eyes were staring at the view plates of radio-vision sets that picked up and assembled etheric impulses which were coming from the *Thelon*. News of the mysterious lights and the alien sphere had traveled quickly. Many space ships were moving sunward.

From the decks of the *Thelon* Mercury was now visible as a large crescent which was growing rapidly.

Another half-hour slipped by. The liner was cruising barely five miles above a lightless landscape—that hemisphere of the innermost of the sun's children that is forever hidden from the sun. The ship's rocket streams had died down to a mere wispy purple glow. All her illuminators, with the exception of those that were absolutely needed had been extinguished. Cautiously, and almost as inconspicuously as a ghost of darkness, the *Thelon* edged forward.

Ahead, a white glow presently appeared over the serrated horizon. It brightened as the vessel advanced, and a broad, crater-like valley came into view. There was activity here, and light. Myriad specks of white flame shone up against the rough, volcanic ground.

CHAPTER II

"Trapped by their own Creation!"

TORRENCE was speaking into a telephone. "We are reasonably safe from detection here, Benz," he was saying. "Keep planetary stations informed of the progress of things. Report important messages and developments here to the control room. O. K."

Quickly he made a new connection on the switchboard, and spoke again: "Stand by your ray guns ready for action, but do not make any unnecessary moves."

Slamming down the instrument he turned to the panel on which was visible the shifting picture of the flame-lit valley. Pakoh was at his side. Again he was toying absently with that jo-jo of his. Torrence manipulated a dial and the details of the weird scene were enlarged, seemed to hurtle toward them. It was as though they were standing at the very brink of the valley.

The thing which first claimed their attention was a gigantic cone of glossy black which reared fully half a mile above the floor of the crater-like depression. Inky highlights were reflected from its smooth sides near its base, then, for a considerable distance upward its strange form was only dimly outlined in the darkness. From its truncated summit, which evidently had a large chimney-like opening, a faint cloud of emberous red vapor poured. Around the base of the cone, and a little distance from it, perhaps a score of large spheres were dimly visible. They looked like some kind of space vehicles.

About these, strange shapes moved leisurely—machine shapes—fantastic shapes. They differed from one another considerably, yet all had spidery, many-jointed limbs, and each carried at some point on its anatomy, a round globe that gave a soft, silvery radiance.

Were these really sentient mechanisms, with minds and wills of their own, or were they merely intricate tools by which some unknown intelligence perhaps hidden in the globular space cars accomplished their desires? There was no way of telling.

"Imps, gods, *Payanu* of space," Pakoh twittered softly. "Have I not said it?" His eyes were almost lambent with the excitement of discovery.

"But where did they come from?" Torrence demanded. "Except for a few human explorers, nothing that lives or moves has been on Mercury for ages certainly."

"Where? Both easy and hard to guess," Pakoh told him. "The void is wide and deep—so deep that you could take a rod, a million, a billion, a trillion light years long, and thrust it wherever you please; still you would not touch bottom. From anywhere in all infinity, they may have come. Who knows?"

"And their motives?" Clive persisted.

Pakoh shrugged his slight shoulders. "To explore? To study? To conquer? Cannot tell. Maybe anything."

As they continued to watch, something shadowy moved up the side of the great cone. Arriving at the truncated summit where the luminous pall of vapor hung, it became clearly visible—a sort of elevator dump car loaded with loose sand. Automatically, and with great care, as

though the process were very dangerous, it emptied its contents into the opening which led down into the fiery vitals of the cone. Then it retreated down its steep track.

Immediately the cone went into action. The tenuous flame at its top plumed upward and brightened, becoming white-hot. Gradually it extended itself farther and farther toward the starlit sky. It was literally a colossal jet of incandescent gas, that made outlandish black shadows dance over the torn and desolate landscape.

However, Pakoh and Torrence knew that there was little danger that it would reveal the presence of the *Thelon* to the automatons which worked in the valley. When one is close to an intense light everything about, appears abnormally dark.

"Here is the explanation of the lights we saw from space," Clive Torrence rasped hoarsely. "The cone looks like a form of furnace, but how about the fire? The air here isn't dense enough to support active combustion, and besides, it's mostly carbon dioxide."

"Maybe it is not fire as we know it," said Pakoh. "Maybe it is radioactive fire—atomic energy!"

Perhaps if Torrence had been of a more scientific mind, or of a more timorous nature, he would have wondered what would happen if the "fire" escaped from the guarding walls of the furnace, and was free to spread in the dust and rocks of Mercury's surface.

The flame from the colossal retort had reached its maximum. The dazzling glare illuminated something which previously had been lost in the gloom at the other side of the valley.

"Look!" cried Pakoh.

He was pointing to a stupendous column of black crystal that reared far higher even than the immense furnace. It rested on a vast circular base that appeared to be made of the same black, shiny substance from which the cone had been constructed. Around the circumference of this base were arranged a number of cylinders made of a green mineral. They pointed up toward the summit of the column.

Automatons had been working on the gargantuan machine, but now, evidently having finished building it and setting it in order, they were makng a hasty retreat from its vicinity. They acted like men who have set the time fuse in a heavy charge of explosive.

"Something's going to happen," Torrence breathed. Yet he and his companion were too fascinated to think of danger.

THEIR expectations were correct. A wispy purple luminescence enveloped the green rods about the crystal column. For several seconds it brightened slowly; then, with a sudden rush, intense purple rays shot from the rods and impinged upon the column, changing it to a cylinder of dazzling, scintillating opalescence. The rays rebounded from the column and slanted up radially in all directions toward the heavens. They formed a vast canopy of thin, lavender fire that enveloped the whole sky even to the farthest horizon—and beyond.

The display was like the Aurora Borealis of Earth, yet infinitely more glorious and majestic—more expressive of cold, calm, unguessable power. What weird demonstration of scientific black magic was this?

Clive Torrence knew that his cheeks had paled. Awe was one of the causes, but there was another. His body was chilly, and he had an intuitive feeling of tension. It was as though he had been locked in an airtight room from which the oxygen would presently be exhausted.

Even the hardened, though not unkind soul of the old Pakoh was moved. *"Tela wrrrp!"* he lisped in his native Martian.

On the wall a loud speaker blared. "Radio room, Benz speaking," the voice said. "All communication with the outer universe has been snapped!"

"It's time to get out of here, Gnome," Torrence rasped.

Pakoh was already leaping toward the controls. The rocket motors came to life, and the great liner nosed upward toward the canopy of luminescence that streamed from the crystal pillar in the valley, and dimmed the stars. It looked as tenuous and informidable as a will o' the wisp, and yet—

Torrence, acting for Pakoh, was busily answering phone calls from all parts of the vessel.

With rocket nozzles flaming the *Thelon* climbed rapidly. Her momentum was already enormous. The veil of lavender light, which was perhaps fifteen miles above ground, shot nearer and nearer, yet certainly *it* could offer no resistance to the hurtling tons of the space ship!

And then the jolt came. It was not a sharp jolt such as striking a solid object might produce; rather it was a long, swaying, elastic jolt, as though the *Thelon* had rammed a vast net of live rubber. Pakoh and Torrence were thrown violently off their feet. Terrified screams, and the crash of furniture being overturned, came from the rooms below.

The prow of the craft dug deep into the flame-veil, but did not penetrate it. When the proper point of tension had been reached, the *Thelon* was hurled downward against the pressure of her rocket streams like a stone discharged from a monster slingshot.

"A force shield," Pakoh gasped, as he picked himself up. "It is designed, maybe, to keep eavesdroppers away. And, by accident, we are caught in it! But we try again!"

He guided the *Thelon* close to the ground in order to get a running start; then, for the second time they shot toward the glowing mantel of energy, which, in some way must have modified the character of the ether, making it almost like a solid substance. They struck the force shield even harder than before, but the result was identical.

When the equilibrium of the ship had been reestablished after the crash, excited words came over the telephone speaker: "Chadburn in the rear observation room. The creatures in the valley below have had an accident! Look into 8A view plate! I think we ourselves are in great danger!"

The plate showed the deep depression in the planet's surface, where the camp of the unknown Visitants had been, but the scene was radically changed in aspect. Somehow the radioactive fire which had been imprisoned in the great conical retort, had broken loose and was spreading rapidly, eating at the sand and rocks of Mercury. The entire floor of the valley was already a seething, blazing holocaust of disintegrating lava, the atomic energy of which was being released. Billowing clouds of incandescent gas poured skyward.

In the midst of it all, apparently inviolate, and still functioning perfectly, was the mechanism that produced the force shield. Its great round base, made, like the furnace, of a substance obviously immune to the action of the fire, floated on the molten rock. A number of the spheres of the Visitants were trying to reach the giant machine, but always the terrific heat repelled them.

The voice of Chadburn continued to come from the speaker, describing the accident: "When we were going up for the second time, I kept looking back at the valley, watching those robots. The dump car with a load of dirt was climbing the cone. When it reached the top and

began to empty itself, a cable or something must have parted, because the car, load and all, fell into the mouth of the furnace. It wasn't much more than two seconds later that the cone, evidently having taken the charge too suddenly, blew up, scattering that white-hot stuff it contained far and wide. Then hell broke loose . . . ."

"You understand what developments mean, Clive Torrence?" Pakoh questioned quietly. His calm was as complete as if he were merely discussing some move in a game of *theld*.

CLIVE was still looking into 8A where the holocaust of atomic disintegration was climbing the steep walls of the valley, edging toward the open plains, spreading, advancing. It moved slowly, yet with ever increasing momentum. The billowing streams of superheated vapor lashed up more and more fiercely.

"It appears as though old Mercury is doomed to die a violent death," Torrence stated in answer.

"Maybe also us," said Pakoh with an impish grin. "We are trapped between force shield and fire. Fire will grow; meanwhile we cannot escape. Soon ship itself will start to burn."

"But surely the shield does not cover and surround the entire planet!" Torrence cried. "We can go to the edge of the shield and guide the ship out from under it."

"Maybe it does not cover entire planet," Pakoh shot back. "Maybe instead we are under a vast dome of energy that covers only local area. But I think there is no opening in it. If there were, radio messages from outside would reach us. They do not reach us."

"Then that's that," Torrence said in a softer tone. "However, there is still hope. The machine that produces the shield can be expected to break down sometime, under the action of the fire. Meanwhile we might try to put it out of commission with the ray guns. Also we can make other attempts to drive the ship through the shield. We may find a weak spot."

"Your first plan of using the ray guns we will try," said Pakoh. "I have thought of it too. But it is a very big job!" He was stepping to a phone to communicate with the gunners.

"Good," Torrence said. 'Meanwhile, I think we may expect trouble from the passengers. As your self-appointed chief aide, I'll undertake the job of keeping them quiet. I'm going below now to talk to them personally. If you need me, page me over the speakers. Shall I send someone up to assist you here?"

Pakoh shook his head. He hated assistants—all but Torrence. Now he sat before his bewildering control panel, guiding the *Thelon* back toward the flaming valley. Into a phone he hissed sharp commands.

Descending to the promenade deck, Torrence encountered a crowd of young passengers. They seemed little changed since the time, several hours ago, when he had last seen them. The series of strange events had had its effects upon them, of course; they were very quiet now; and the faces of many were pale as death. Yet there was no hysteria, no violent demonstrations of blind, animal terror. There was iron in the makeup of these youths of Earth.

Clive sauntered causually into their midst. Eyes turned in his direction. Someone recognized him and shouted out: "Mr. Torrence!" Through rumor the name had become associated with that of the *Thelon's* Martian captain, and in a moment Clive was the center of attention. He smiled back at their questioning, troubled faces while he was thinking out a way to address them. Subterfuge, he decided, was out of place.

"You have of course been wondering what is the meaning of the weird events which have taken place in the last few hours," he said at length. "And I will tell you. The *Thelon* was ordered to investigate flashes of light which were visible on this planet. Arriving here, we found in the valley, the strange race of beings and their machines. Our ship was trapped by the force shield which you can see overhead. Then a peculiar kind of radioactive fire was accidentally started in the valley.

"It would be useless to deny that we are all in great danger, and it may be our fate to die before this adventure is over. However, the crew and the captain are doing everything in their power to avert disaster, and they ask only that you continue to cooperate with them fully to keep order.

"Now we are going to make an attempt to smash the machine that maintains the force shield which is keeping us imprisoned. If the ray guns can accomplish this, and there is a chance, maybe a slight one, we will be free. Let's go over to the windows where we can watch!"

In a body those who had not already taken up position along the observation bays, obeyed his suggestion.

At some little distance from where Torrence stood, beside a window, a thin-faced boy who could not have been over seventeen, hid his face with his hands and began to sob, and to mutter incoherent blasphemies. Another youth grasped him by the shoulder and shook him violently. "Shut up, Eddie," he spat. Someone, making an attempt at lightness, began to chant a humorous song that was quickly quelled.

The *Thelon*, racing along at as great a speed as she dared, was almost over the valley of the Visitants now, or rather, where the valley had been. In its place was a lake shimmering, dazzling, boiling lava, fully six times the area of the now vanished valley. Great plumes and fountains of fire lashed at the retreating, disintegrating shores. And out of the flames and rosy murk towered the opalescent pillar of crystal. It floated securely on its great circular base, and to all appearances was still unharmed.

A number of the spherical space cars of the Visitants were swirling about over it. Now and then one of them would make a frantic, useless attempt to reach the base of the huge machine, but always the heat and the intense radioactive radiations made it retreat falteringly.

"What are those globes trying to do, Mr. Torrence?" a curly-headed lad who stood beside Clive asked.

"I imagine they are attempting the same thing that we are," the older man replied, "—to stop the machine. In a way they are our allies. Like us they want to escape being burned alive. Their position is rather peculiar—trapped by their own creation!"

CHAPTER III

Torrence's Sacrifice

THE *Thelon* had nosed steeply down, and was diving toward the crystalline giant that stood as a symbol of fate for five hundred humans and the occupants of perhaps a score of strange alien spheres. Hands gripped stanchions fiercely—a natural reaction to the free-falling feeling produced by the rapid loss of altitude. A rosy murk poured over the huge hull of the liner, veiling the dazzling inferno for an instant.

Down, down. The ship was now on a level with the pinnacle of the opal-wrapped pillar of crystal. The *Thelon* itself was colossal, yet when compared to this mighty creation of the unknown Visitants, it was like a needle beside a tall wax candle.

Soundlessly the liner's two ray guns, one at the bow and

one at the stern, went into action. Their faint yellowish beams stabbed through the whirling, eddying vapor, and impinged on the glowing pillar from which the force shield fanned upward and outward. Would there be any effect? None was noticeable. Only a few substances known to man could continue to exist when exposed to those disintegrating rays, but the material from which the pillar was made was not among them. The pillar was necessarily built to stand up under beams of energy far more powerful than anything known on the planets of the solar system.

But Torrence was still hopeful, not because it was sensible, but because he had to be. If they could get close enough to that lake of fire they might be able to disintegrate the round black base of the machine. One of his hands was clamped like a vise on the railing at the bottom of the window; the other was thrown up to shield his eyes from the awful glare. A fleeting vision of what the *Thelon's* interior might be like in a few hours crossed his mind, and it made him want to shriek like a madman. Yet, controlling himself, he remained outwardly calm.

Torrence was conscious of a pricking, electrical sensation over his body. The radiations from the radioactive disintegration were penetrating the thick walls of the ship. In a short time those radiations would, like the rays given off by radium, produce unhealable sores, or death. Something would have to be done about them soon.

Two minutes told the truth about their chances of destroying the machine that maintained the force shield. For that length of time the *Thelon* spiralled about the pillar at five hundred feet—the lowest altitude that she dared fly, to keep out of reach of the flames. Her disintegrator beams were constantly focussed on the base of the crystal tower—without result.

The spherical vessels of the Visitants paid no attention to the liner; instead they concentrated on their own efforts to put the machine out of action. Constantly they tried to approach a hemispherical structure that stood on the base of the pillar. Here, doubtless were located the switches which sent power to the huge mechanism. But they too were unsuccessful. One of them plunged into the boiling lake, bobbed like a cork on its surface for an instant, and vanished in a spurt of flame.

The *Thelon* was climbing toward the stars that peeped calmly through the force shield.

"We have failed, haven't we?" said the boy at Torrence's side.

"This time," Clive replied, and added reassuringly: "But we aren't licked yet. We might be able to puncture the shield, or something unexpected might turn up."

The youth nodded slowly, and a hard, knowing smile that one would have thought totally out of place with him, came to his lips. "I understand perfectly, Mr. Torrence," he said.

* * * *

Clive was back in the control room with Pakoh. "We had better order everybody into space armor," he advised. "It may help to protect them from the radioactive radiations which are certainly entering the ship."

And so the maddening terror-filled hours dragged by. Minute by minute the atomic fire increased in intensity, spreading, ever spreading. Mountains, and the walls of world-old craters that for endless eons had been dead and lifeless, and cold almost to the point of absolute zero, toppled before its slow but mighty advance, melting, dissolving, disintegrating. The great dome of the force shield, which covered a circular area on the surface of Mercury fully five hundred miles in diameter, was gradually being filled with superheated helium vapor, the temperature of which steadily rose. Great geysers of lava spouted from the molten sea.

Like some jungle beast, newly caged, the *Thelon*, her long flanks already glowing red-hot, rushed about her prison, furiously attacking the tenuous, seemingly fragile veil of light that held her in. But her efforts to escape were vain. She was not alone in her attempts to win freedom. The spherical space cars of the Visitants were fighting the shield too, and with no better success.

BEYOND the shield fifteen or twenty space ships had gathered to offer assistance, but apparently no assistance was possible. There was nothing to do but wait, and watch for the end. Several times disintegrator beams were brought into play against the veil of force, but without results.

The news of the trapped liner had spread quickly throughout the solar system, and the peoples of all the inhabited planets watched anxiously for the outcome.

Within the *Thelon's* hull the diminutive shrivelled Pakoh still ruled his mechanisms with an iron hand. His Martian stoicism was as yet unruffled. He performed the necessary act with quick though unhurried efficiency—answering excited telephone calls from all parts of the ship, giving orders, tending the controls, and checking instruments that showed unnatural figures. The temperature of the air in the vessel was rising, even though the heat absorption apparatus was doing full duty. The question now was when—at what instant—within the next minute or the next hour, the atomic fire would take hold of the *Thelon*. Or would the crystalline machine that produced the imprisoning shield break down in time? As yet there was no hint of this hoped for event.

The tension was dreadful. It was almost inevitable that soon, worn and frayed human nerves would snap.

With Pakoh worked Torrence. Outwardly he was calm, but he was less stoical, less fatalistic than the little Martian. Both were, like everyone else on the *Thelon*, clad in space suits, and they spoke with one another by means of radios with which their oxygen helmets were equipped.*

Torrence made many visits to the parts of the vessel which were frequented by the passengers. He went among them, trying desperately to keep up their morale; but with the cards stacked against him, it was a losing fight. They were game, those students of Earth, yet human nature has its limitations.

First of all a young fanatic stabbed himself to death in full view of his fellows. Not more than ten minutes later, an officer was attacked and killed by a raving, wild-eyed group of youngsters who declared they would destroy the ship before they would suffer the tension any longer. A member of the crew went raving mad, and leaped from an air-lock. And so, force, with the shadow of death at the point of a ray gun, back of it, had to be used to maintain order, and even that was of questionable effectiveness.

A wave of horror came suddenly over Torrence, and it brought with it fierce but impotent determination. Impotent? Time would tell.

The *Thelon* was now hanging motionless at the edge of the force shield.

Panting and perspiring Clive hurried up to the control room. When he entered, Pakoh was seated before his instrument panel, and was leisurely and absently toying with his jo-jo. He glanced at Torrence, saw that the Earthman's fists were clenched, and noted that he was breathing hard.

"Better not to become excited now, Clive Torrence."

*The force shield did not effect radio communication here at all; though it was absolutely impenetrable to messages coming from outer space.

he remarked. "Better to rest. Soon it is over. Outer shell of ship is now only fifteen degrees from point of fusion Temperature still mounting. Let us have a last game of *theld*, a drink of *toka*, and some of your excellent cigarettes. Then we will be ready for peace."

But Pakoh's icy self-possession grated on Clive's jangled nerve, and he no longer tried to control himself. "To hell with your eternal *theld*, you smirking imp!" he blurted. "Something's got to be done about those kids, and I'm going to do it! Remember that hemispherical structure at the base of the force pillar? The Visitants were trying to reach it. The power switches must be located there. I'm going to get into the auxiliary boat and ram that hemisphere!"

A sudden surprised look came into Pakoh's shrivelled face, which was visible through the glazed front of his helmet. "Clive Torrence," he piped, "That *is* a plan! But we must draw lots for the honor of carrying out."

"Lottery, the devil—it's my idea!"

Torrence was leaping across the room to the door which gave access to the interior of the auxiliary flier, but Pakoh clutched his arm. "You must!" he said.

The Earthman glanced down at him. There was a steely glint in the Martian's big eyes. "Alright Gnome," Clive replied. "We've got to hurry though."

Pakoh took a Martian coin from a small drawer artfully concealed in the wall, and handed it to Clive. "I will have 'heads,'" he told him.

Torrence shook the coin between his palm and slapped it down on the back of his gauntleted hand. Heads came up.

"I am lucky," Pakoh grinned.

"No you're not." Clive shot back at him. "It's still my job. I just gave in to your request for a lottery because if fortune favored me there wouldn't be any more arguments. Now I'll have to face the arguments. Anyway you're needed on the ship."

HE was lifting up on the heavy bar that latched the door which opened into the auxiliary space boat. And then the little Martian leaped upon him, tried to tear his hands away from the heavy bar. Pakoh's features worked and grimaced with furious anger. "You are a cheat, Clive Torrence!" he screeched, "A cheat!"

Torrence saw that force applied as gently as possible was the only argument that the Gnome would accept. And to apply it gently was not an easy thing to do. Pakoh was small but he was put together like a bobcat—mostly steel wire—and now he was acting like a bobcat—clawing, kicking in wild frenzy. "You must not go. Clive Torrence! I have won! It is my right to go! You are young, I am old. My life is lived!"

After a brief though furious scuffle, Torrence succeeded in locking one arm firmly about the shoulders of the tiny Martian, so that he could do nothing but squirm ineffectually. With his free hand Clive unlatched the door, opened it and stepped through, giving Pakoh a lusty shove back into the control room as he slammed the metal panel. A brief laugh of triumph broke from his lips.

Torrence was in a narrow closet, at the other side of which was another air-tight door that led directly into the hull of the auxiliary flier. This small vessel was firmly clamped by magnetism into a groove in the side of its mother ship.

In a moment Clive stood before the controls of the space boat. He cut the switches that fed current to the magnetic anchors, and allowed the little craft to slip free and go diving down toward the indescribable inferno below—no, not below alone, for it was all about now. Great clouds of vapor, their centers yellow-white with heat, their edges rose fringed with torn streamers, swirled and billowed everywhere. The glare shields were in place on the observation windows, and yet, Clive's eyes ached and burned. He clamped a piece of dark flexible glass over the glazed front of his oxygen helmet, and the pain was somewhat relieved.

Huge scintillating chunks and globes of lava, hurled forcibly from the tumultuous blazing sea, shot far up through the murk, and burst with glorious showers of sparks like the flares of signal rockets. There was danger in those flying lumps of disintegrating material. If one struck the space boat, and the chance was by no means small, it would quickly terminate this bold adventure.

The rockets of the craft had come to life now, and it was climbing, zigzagging, dodging toward the sky. Through a thin spot in the rosy, wispy murk, and through the frosty pallor of the force shield, Clive could now and then see a star, or even several stars, gleaming coldly, peacefully. Venus came into view, a great glorious speck of cool white light, and close beyond it the smaller, and less brilliant fleck of green—Earth—Clive's home. He surveyed it without emotion, scarcely noticed it at all, for his mind was on other things.

His hard jaw was clamped solid. Fiercely he threw the control stick far over to one side, making his craft slip down for several hundred feet to avoid a swarm of dripping sparks, that had originated from an exploding lump of lava. Had those sparks touched the hull of the craft it too would doubtless burst into atomic flames.

Could he win his way to the machine through this hell? Would he succeed in ramming the hemispherical structure at its base, where the switches and controls were doubtless located? If he did ram it, would his act have the desired effect—destroy the force shield? And, granting that all this happened as he hoped it would, would it be in time to save the five hundred souls aboard the *Thelon* from a fiery death?

Briefly Clive wondered about these things, then he put them forcibly from his mind. He had made his plans. The only course to follow was to carry them out as quickly and efficiently as he could. Speed and coolness were the things that counted now.

The crystal column was not difficult to find even though it had most certainly shifted its position considerably on the surface of the flaming sea. It was only necessary to approach the great funnel-like formation of silvery light that hung down through the mists and smoke from the under surface of the force shield. It resembled an immense stationary tornado of shimmering energy. At its bottom would be the machine of the Visitants.

With rockets roaring full on, the little craft, its hull glowing red in the awful heat, approached its goal, mounting higher and higher, attaining a point of vantage from which to strike. It was like the winged steed of some fallen angel, who, riding through the flame-blasted air of Hades, seeks to redeem his fall by some act of heroism.

But Clive Torrence did not look upon himself as a hero. He was sacrificing nothing. He had merely decided between two alternatives: to wait supinely for death, or to try in his dying to aid his fellow passengers aboard the *Thelon*. And he had chosen the course of action.

HE had guided his ship to a point almost over the crystal column now. There it was floating on its fire-lashed base, with the opalescent streams of energy leaping from it, feeding the force shield. Occasionally sinuous veils of luminescent vapor would pour from it, hiding it momentarily from view.

Torrence had reached the greatest altitude that he

could attain—fifteen miles. Close overhead was the force shield. The craft hung motionless.

Clive's eyes took in the scene below—the vast ocean of fire extending now, from horizon to horizon—the chaotic waves of liquid lava that ruffled its surface—the spouting plumes of metallic vapor. For the first time Torrence was conscious of the awful majesty of the sight. An unaccountable feeling of peace came over him.

Down there beside the towering crystal was his target, the circular structure where the switches were supposed to be housed. It was really a fairly large building, but from the great height it looked as small as a dime. Torrence knew however, that it would be comparatively easy to hit. Maybe his hands would be lifeless, and shrivelled by the radioactive radiations before the crash came, but by then he would have the flier perfectly aimed, and the controls locked . . .

No time to lose. He glanced at the meters on the control board—everything O.K. He breathed deeply once, and then eased the control stick forward. One hand was pressing the throttle. The space boat started down on its long dive. The free-fall feeling in exaggerated form again, but Clive was used to it. It was funny, he reflected, that only forty-eight hours before, he had been just a carefree jackass on a vacation, and now he was going to die. Oh well, eat, drink, and be merry! He hoped his fade-out would do somebody some good. However, his former desperation was gone.

Like all space vehicles, the little craft had a telescope sighting apparatus set along her tapered nose. This was very valuable in directing her course when flying out in the void. Tentatively, preparing for the moment when it would be time to use the instrument, Clive peered into the eyepiece. The flier was picking up speed at an enormous rate, shooting straight at the bubbling, seething holocaust.

Clive could not see the darting fleck of flame that followed close behind the billowing streams of his own rocket motors, nor could he see the tiny flattened vehicle from which the flame originated. Crouching low on the upper surface of the miniature craft was a small human figure in space armor. And the velocity of the tiny vehicle was just a shade greater than that of Torrence's flier.

"Clive Torrence! Clive Torrence!" The name given in piping familiar tones came through the earphone in the Earthman's oxygen helmet.

"Pakoh!" Clive started in surprise; but the little Martian, expecting that he would do this, and realizing that it might have disastrous consequences, was prepared.

"Steady! Aim carefully!" he piped. "Do not talk! I tell you what to do! I am here to left of you, in two-man scout boat—just maybe twenty feet distant from door—nearest I can come. Now keep all attention on controls and sights until I speak again."

There was a long pause. The larger space boat tore on ever faster and faster, making the tortured gases of Mercury's newly created atmosphere screech and whine like a tortured devil. The altitude was cut down to nine miles now. Only a few seconds more! Torrence was peering into the eyepiece, centering the cross hairs on the circular structure he had planned to ram. His muscles were taut, his nerves tense but steady. He moved the control stick an infinitesimal bit to the right. There! It looked like a perfect aim, but he couldn't be sure yet, for the target was still too distant.

"You have sights lined up on hemispherical building?" Pakoh asked.

"Right."

"Good! Then lock controls. Release main latch on door, leaving only little latch which can be unfastened quickly."

Wonderingly, yet realizing the necessity for instant obedience, Torrence fulfilled his small friend's orders. It took three lusty jerks on a heavy bar to undo the metal clamps that held the thick airtight door in place. "It's done, Gnome," Torrence yelled.

Pakoh's voice, calm and twittering, came again. "Return to controls. Make adjustments if needed; then lock them, and push the throttle to the last notch. Open door of flier and catch what I throw to you; then swing out into space."

Back at the eyepiece. Agonizing moments of suspense. A hair's breadth adjustment which only a hand as steady and cool as a rock could make. The ocean of fire scarcely three miles below. Then a leap to the door of the flier, an instant of fumbling with the small latch.

The portal flew open, and a tornado of fiery wind blew into the ship, the speed of which was rapidly approaching that of a bullet. Dazzled by the awful glare, Torrence, standing on the threshold, was still able to see Pakoh who lay on his stomach on the deck of his tiny scout boat.

"Catch!" the Martian called. One of his arms was dangling over the side of the craft. His wrist jerked once, and something that spun, and reeled out a thin wire behind it, shot toward Torrence. He caught the heavy spool of the jo-jo in his insulated space gloves.

"Jump!" And Torrence jumped into two miles of fire-filled void with hell at the bottom—trusting himself to a thin though tough strand of flexible wire.

BUT this phase of the game was not nearly as dangerous as one might expect. The fact that they were losing altitude so much faster than the weak gravity of Mercury could pull them, rendered Torrence's body weightless relative to the objects in his immediate vicinity. Tugging lightly on the wire, Pakoh drew Torrence to safety on the deck of the scout boat. Safety? It was questionable at best. Held rigidly to its course by its locked controls, and with throttle wide open, the deserted flier raced on ahead, toward its goal.

Could they check the scout boat's headlong descent before the sea of incandescence swallowed them up? The forward braking-rockets were flaming—cutting down the awful speed. But it was a gamble. The ocean of lava, and the crystal pillar seemed literally to hurtle toward them.

Only a mile and a half of altitude was left now. Pakoh was trying to make the scout boat loop around—to bring it into a climb, but its momentum was still too enormous. With its flat bottom toward the ground it continued to "mush" down through the flaming atmosphere.

A cloud of swirling fiery gas enveloped the tiny flier, obscuring the vision of the two men who clung madly to the hand-grips on her deck. The outer shells of their space armor were red-hot, but the numerous vacuum spaces and the layers of insulating material between the silvered external plating and their skins, kept most of the terrific heat away from their bodies. Still they were sweating furiously.

Why wasn't the boat and its passengers attacked by the atomic fire? Torrence had guessed the truth hours ago: *In order for the process of radioactive disintegration to be initiated in a substance, actual contact between that substance, and some already infected liquid or solid material was necessary.* Gases, no matter how high their temperature, could not start the atomic fire. Luck favored Pakoh and Torrence, for no sparks, or droplets of fiery rain touched them. They could feel the tingling electric thrill of the radioactive radiations, even through their heavy armor.

The nose of the scout boat came gradually up, pointed

toward the sky. Its stern rocket nozzles, belching their lavender streams, halted its fall; and then slowly the long fearful ascent began. Pakoh had to give all his attention to the controls.

Torrence looked back eagerly, searching for the larger craft which he had deserted. There it was, almost at its goal, and traveling at Titanic velocity. Its long lavender rocket blasts were almost lost in the glare of the inferno.

The crash came. It was unimpressive in that seething spitting chaos of Mercury's destruction, nor was its effect immediate. For the space of several heartbeats nothing happened; then the rays of energy coming from the crystal column dimmed, burned brighter, dimmed again, flickered and went out!"

The force shield high overhead, warped and bellied under the pressure of the expanding gases beneath it, then, like a sheet of cloth hoisted into the air by a strong wind, it shot upward, crumpled together. Its feathery, frosty wisps faded and dissolved into nothing.

Clive Torrence clung for dear life to the slanting blast swept deck. His eyes burned in his glistening, sweat-streaked face, as they mounted upward in their wild dodging flight through the blazing, spark-laden atmosphere. His lips curled back from his teeth. "We've won, Gnome!" he shrieked to Pakoh up ahead. "Won!"

"Not yet, quite, Clive Torrence," the Martian said softly into his transmitter. "Last set-up is still to be played. We must save our own necks—get to the *Thelon*. Is the *Thelon* still in existence? We do not know. I left her in the care of Drayden."

They had reached the clear, cold freedom of space. No need to look back at the devil's kingdom fifty miles beneath them. They gazed about. Two space ships were in sight, cruising leisurely, searchingly, in wide circles. One was a small heavily-armed police craft, the other was a gigantic liner of the void. Her name plates had been burned away, and her hull still glowed with a dull, baneful luminescence. It was the *Thelon* alright, battered and singed, but still in working order.

Pakoh threw a small grenade that burst into a flare of red light. Ten minutes later they climbed through an air-lock of the liner . . .

It was some hours afterward that several men were gathered in the luxurious officer's lounge of the *Thelon*. A broad observation bay, over which the glare shields were drawn, looked out over the tapered and finned stern of the vessel. Through the darkened glass the huge sun was visible, and close beside it, a small fleck of light that glowed with almost equal intensity. It was Mercury, doubtless doomed to burn until all her substances had changed to pure energy.

Far to the rear were six spherical black dots moving off on a course which was perhaps forty-five degrees to the right of the *Thelon's*.

Clive Torrence was pointing at them. "There they go—the last of the Visitants. No doubt they've seen plenty of the solar system and the mess they got themselves into here," he said.

Benz, the tall, light-haired man who held the position of chief radio operator, spoke: "I've had enough of the mess too, and I'm glad we've been ordered back to the Earth-docks for a checkover and repairs. We'll probably all get a chance to take a good rest."

"Rest?" Drayden questioned scornfully. "I'm afraid we'll have to go to the polar regions or better yet to the moon, if we really want any. If we venture around in civilized places, our rest will consist mostly of speeches and short hours in bed."

"And pretty ladies," Pakoh put in impishly, showing a genuine understanding of Earthly humor.

"Drayden's just trying to imagine that he's modest," somebody chuckled. "Well, he can start practicing that real soon, because I think the passengers are planning to pull something."

"What shall you do with your vacation, Clive Torrence?" Pakoh asked.

Torrence shrugged and grinned. "Follow the line of least resistance if you agree to do the same, Gnome," he replied. His face sobered for a moment, then brightened again. "After that," he continued, "back to the mines on Neptune's satellite. The thing I hated worst about that place was the low temperature, but I guess I'll be able to stand it now. Lord! In the last couple of days I've soaked up enough heat to last me for the rest of my life!"

THE END

« To Science Fiction Lovers »

On page 436 of this issue is an announcement of a new group of science fiction booklets, eagerly demanded by our readers.

Each book contains one or two stories, especially selected from our contributions, as unusual examples of science fiction. They cover every field of science fiction from the solutions of mysterious crimes by scientific detectives to nipping in the bud of a gigantic plot against our planet by clever militarists of another world.

THE JOVIAN HORDE

By **Al H. Martin**

(*Illustration by Paul*)

Behind the thick-bodies, metal-like forms of the invaders came a little band of faltering stumbling men and women.

THE JOVIAN HORDE

IT was one of those glowing dancing parties which pleasure-loving New Yorkers delight to stage when the first frosts of September robe the countryside in scarlet and gold. The Moreland's pretentious country home glittered with colored lights like a jeweled palace of enchanted land. From an ornate radio flowed barbaric, impassioned melody of a glorious military band.

Over the glistening floor a swarm of flushed dancers glided, writhed, squirmed like a monstrous, flashing dragon. Lance Norden, firm-mouthed radio engineer fresh from the raw diamond fields of Matto Grosso, watched the glittering dance from a vine-wreathed corner of the vast room; watched with grim contempt.

He had come back from five years in the ruthless tropics with fierce pride in the white race singing in his veins—to this. Came back to see half-stripped women of his own superior people wriggle and squirm in the arms of grinning satyrs in black and white. His gray eyes smouldered back of narrowed lids.

Why, even a crude jungle savage played a man's part more gallantly than those sleek-headed males. And a Brazilian squaw raised beady eyes to higher things than those pink and white—

Lance Norden roused from bitter musings with a start. The lilting music had stopped suddenly, as though an unseen hand had stilled the radio.

Like a glittering monster jerked to a halt by a taut chain the weaving dance slithered to a sliding stop. Impatient, fretful cries burst from the throng — cries that gradually hushed as the deep tones of the radio announcer made itself heard through the clamor.

"—tides are rising above the highest marks ever recorded along the Atlantic seaboard." The words came slowly as the dancers stilled their grumbling. "It is not a tidal wave, but a steady and slow rising of the spring tide. Water is several inches deep along the Florida coast. The United States Naval Observatory—"

"Hey, we don't know nothin' about water," yapped a flushed, wavy-haired youth, pushing to the edge of the restive throng. "Water's too old and weak for this crowd." He laughed foolishly over his supposed wit. "Tune in on somethin' snappy."

"You cackle, Fritz," shrilled a big blonde girl, whose blue gown seemed slipping from her thick shoulders. "You know your eggs."

"That's the old head! Shut off that junk—somebody. Get another station! What's th' matter with that bozo? We want music! We want music!" came shouting from the stamping dancers.

"—the moon is moving nearer the earth!" The deep voice issuing from the radio checked a thin-armed girl as she reached for the glowing dial. "Dr. Elwood Leeman of Belleview Observatory computes the moon is nearly twenty thousand miles nearer our earth than eighteen hours ago. This condition is directly responsible for abnormally high tides along our—"

"For gosh sakes!" yelled the youth with the wavy hair, "this ain't no school. And it ain't no swimmin' party. Cut him off, Lil. Here, I'll get somethin' "

"Forget it," snapped Lance Norden, shoving between the drink-flushed youngster and the radio. "This is serious. Listen!"

"—calls on the American people to face this danger, if it is a danger, with their traditional courage and calm." The announcer's voice held a queer quiver. "The moon's steady approach proves it is not falling upon the earth. Professor Emil Leininger, Germany's great astronomer, states the moon is probably being pulled from its elliptical orbit by some hidden body."

The deep voice was making itself heard with increasing difficulty. From the radio were coming strange whistlings and pipings. The awed dancers were glancing at each other fearfully. In more than one face showed the pale flag of fear.

"The Old Man in the Moon's tryin' to kiss us," a woman shrilled hysterically. She laughed wildly. "Say, is everybody gone crazy? How could the old moon—"

"Shut up!" A man's voice, strained and high-pitched.

"—no cause for alarm," the radio was mumbling. "The moon is only one-fourteenth the size of our earth. It

AL. H. MARTIN

THIS story introduces to our pages a new writer, whose virile, exciting style cannot help but win your interest.

Mr. Martin believes in mincing no words in attempting to show how much the inhabitants of one world may vary from those of another. Jupiter, the mysterious may be the source of life; and if so that life will probably be governed by the conditions of the planet, even as we are creatures of our earth environment.

Picture then the great massive Jupiter with its gravitational force more than twice that of the earth's, its terrific speed of rotation; the mighty storms that must sweep its surface. Then try to conceive the inhabitants of such a world. And if you go further and try to imagine the conflict of such mighty men with those of our little green earth, you have the basis for this unusual story.

could be comfortably placed in the Sahara desert . . . Powerful radio waves are disrupting our broadcasting. It is almost impossible . . . Waves are long and high frequency . . . It may be some mighty force from space—" The voice was almost drowned out by the wild clatter of shrill squealings and whistlings. "Mighty force is trying to . . . communi—" The faltering voice trailed off into vague mutterings.

THE quivering radio was squealing, whistling, screeching like a monster twisted by torture. Through the open windows began to beat the dull humming of planes and racketing of rushing automobiles. Already terrified dwellers of the mighty city were speeding to neighboring hills and the rugged mountain country.

A high, thin, whistling voice keened with nerve-rasping suddenness from the shivering radio. Almost it was as the shrill piping of a mighty bird. Strangled cries burst from the panting dancers as they caught the dread import of the first English words.

"—using language seemingly universal with people of your planet. We have to show what we can do. The water advances on your cities and green sward. We have but to lower our planet a little more . . . and your ocean quits its bed." The piping tones were cold, emotionless. "Long we observe you; see all you do; know all you know. Superior are we to the dwellers of your planet, as superior you to the brainless ones you rule. We know forces your feeble minds not comprehend. We have done while you dream.

"Our people come; take care they not opposed. Our people come with weapons of war breathing death, destruction. We come not kill . . . unless it must be. But we are ready. All we see; all we know. Against us your greatest weapons are useless as against the gods you worship . . . Our great fleets of atmospheric ships wing to your glorious planet . . . Take care they not opposed. It is said."

Abruptly the keen, piping voice hushed. From the radio the dancers were shrinking away as from the menacing fangs of a roaring dragon. Color had drained from their faces. Rouge stood out hideously on palid cheeks of the women—and several men. Some clawed hold of others; some groveled on the waxed floor.

"Snap out of it!" Lance Norden's voice, strained but steady, seemed to crash on the tense silence. "Don't start crying before you're hurt. Get hold of yourselves—men!"

"Oh, my God!" wailed the big blonde girl with the blue dress sliding from thick shoulders. "Was that a bird? Are we going to be all killed by birds?"

"I'm guessing it's a man," the young engineer stated quietly. "If that voice came from the moon it's two hundred thousand miles away. Any voice would sound thin and eerie at a distance like that. Come, come, folks, get hold of yourselves."

"I can hear water sloshing," a woman moaned. "And look at the moon. It looks like a devil!"

Men and women began surging toward windows and doorways. Lance Norden crossed the room with quick strides, looked out and up. The air seemed alive with droning planes, and the moonlight appeared unnaturally, awesomely bright. A damp wind poured through the moaning trees like a gusty torrent.

"You're right, Norden, we'll face it like men." The speaker, a firm-mouthed man with graying hair, lit a cigarette with steady hand. "Come on, Gladys, we're going home." He tucked the white arm of a wide-eyed woman within his own, stepped outside.

"Do you think those fiends will try to drown us, Mr. Norden?"

Lance Norden turned slowly. A girl of regal height faced him, a girl with vividly red lips and cool, unafraid eyes of midnight black. She was magnificently formed, with wavy black hair clustering in ringlets about her lovely face. The gauzy evening gown of red silk accentuated the strong lines of her form, revealed rather than hid her deerlike grace and hardened brawn.

"I don't think they will venture close enough to flood us," the engineer said quietly. "It would mean destruction for them and us, unless they entirely control the pull of gravity. Anyway, it wouldn't gain them anything. They don't want to destroy what they hope to possess."

She nodded her queenly head. "I'm Lorna Lansing. I'm not afraid." Her lips quivered slightly but she forced a gallant smile. "Looks like this old world is in for some trouble."

Lance Norden nodded. "Looks like it, Miss Lansing. If you have a car handy, I'd suggest a run to the hills. You'd be safe from—"

"I'm not a weeping willow," she cut in sharply and glanced disdainfully at a little knot of terrified dancers huddled in a far corner. "I'll go down fighting—if I've got to. I'm running down to the city to see what's happening. Want to come along?"

"By Jove, you're a real girl," he cried with frank admiration. "All right, let's go."

"Come on."

She led the way from the brilliantly-illuminated house, careless of the water-cold touch of the night on bare arms and shoulders. Guided to where a long, powerful-looking roadster was parked. Norden climbed into the machine at the girl's nod. She fitted a key to the ignition lock, pressed on the starter, backed out into the highway. Sent the car whizzing over the pavement, heading straight for the roaring metropolis.

Automobiles were shooting past them like comets. Lance Norden marked that the faces of the men and women in the speeding cars were curiously blanched and drawn. A huge truck thundered past, barely missing the light roadster. Only Lorna's alertness and quick twist of the wheel averted disaster.

She slowed down the humming car as it struck wet asphalt. Soon they were in a maze of swirling traffic, churning through water inches deep. Lights danced crazily on the wavelets. The night was redolent with the salt tang of the sea.

THE sidewalks, over which water rippled lightly, were crowded with milling, shoving, hurrying multitudes. Radios blared stridently; newsboys screeched shrilly. Squadrons of police were battling the terror-ridden crowds here and there. The air was hideous with screams and yells of the maddened populace.

The girl stopped the car as a red light flashed, leaned out and called to a dancing newsboy. The lad splashed through ankle-deep water, handed her a paper, received the coin she handed him with a queer little grin. The green signal flared.

Lorna tossed the paper to Lance, started the car. "What's the latest? Tell me as we go on. I'm heading for my apartment to get some clothes and things."

"Tides have quit rising," Lance read, his eyes racing over the flaring headlines. "President has called out the army . . . Governors are calling the national guards . . . Dr. Braden Glenning, the great scientist, declares means for combatting the menace are being developed . . . Says there is no danger of the moon falling on the earth.

Says the agencies responsible for swinging the moon from its orbit dare not approach the earth sufficiently close to cause serious floods . . . President calls on all for calm. Declares the danger is more apparent than actual. Mayor Redmond urges the people of New York to keep to their homes . . . Looting breaks out in scores of cities . . ."

"Aside from all that everything is fine," Lorna smiled and shrugged her splendid shoulders.

The car glided from a snarl of traffic, swung into a quieter side street. Water swirled close to the hubs of the churning wheels. Sidewalks were choked with pushing, chattering, yelling crowds. The girl halted the roadster in front of a brightly-illuminated apartment building. People swarmed from the broad entrance like ants from a menaced nest.

"Back in five minutes," Lorna smiled. For an instant Norden felt her fingers on his arm, caught a faint, elusive breath of perfume. Then she had tossed a gay scarf around her bare, creamy shoulders and was slipping from the car.

A radio in one of the lofty apartments was screeching, whistling, frenziedly. Lance Norden was too far away to distinguish the piping sounds, but he knew by the way the crowd began scattering that the distant messenger from space was hurling new threats.

"Trying to throw the fear of hell into us," the young engineer muttered grimly. "Why doesn't somebody shut off the damned thing?"

He picked up the newspaper, glanced over it swiftly. His shuttling eyes caught a bold-faced bit of type at the top of the page.

> "The moon's nearest normal approach to our earth is 221,463 miles. Dr. Morton L. Griffin of Hallmore Observatory computes its present distance at about 200,000 miles. It has not moved nearer in the past two hours. Volume of the moon is only one-fortieth of the earth's, and the mass of the earth is roughly eighty-one times that of the moon. Attraction of gravity on the moon is only one-sixth of that on the earth. The pull of the earth becomes so tremendous as the moon approaches our world that . . . . "

Lorna was coming out of the apartments, carrying a bag. Behind her shuffled a palid-faced porter, bearing two suitcases. The girl had slipped on a long, rose-colored coat, but Lance noticed as she stepped into the car that she still wore her red evening dress. He felt a strange thrill race through him as she brushed against him when she took the wheel.

"Any particular place you'd like to go before we head for the hills?" she asked lightly. "Where you staying?"

"The Graystone. Stanford street."

"Why, that's only about twelve blocks northwest. Passed it several times. Glad to take you there."

"But I can't discommode you like that, Miss Lansing. You must have friends here—"

"Call me Lorna," she smiled. "Sounds more pally. I'm free as the air—my folks are 'way out in Oregon. I'm in New York studying music—but that's no never mind."

"By Jove, you're the kind of a girl I've dreamed about—Lorna." He caught her offered hand, gave it a quick squeeze. "Full of grit and fight. I'm Lance Norden, radio engineer. Just got back this week from the Brazilian diamond fields. Killing a few days here. Met Tom Halstrom—he's an old pal—yesterday, and he invited me to that dance at the Moreland's."

She nodded her dark head. "Fine. I'll run down to your hotel—then we'll strike out for those little hills the people down here call mountains. Got to fill up the old gas tank before we go much farther.

She eased in the clutch. The car began creeping forward slowly through the sloshing water. The girl was handling the machine with steady skill, holding it to the slimy pavement with apparent ease. Gradually they gained higher ground, until the water was little more than a trickle. A street-car crowded with pallid-faced passengers rumbled by. Automobiles were coming so thickly that it was with only the greatest skill that Lorna avoided collisions. High overhead sounded the drones of rocketing airplanes.

A red light momentarily checked the roadster's swift flight. Then the girl was driving down a cross-street. At one side of the thoroughfare three cars were locked in a tangled mass of wreckage.

Lorna stopped the roadster before the imposing entrance of a hotel. Lance sprang from the car, pushed his way through the surging crowds, was back in a few minutes with a suitcase. Again the roadster was slipping through a maze of traffic.

CHAPTER II

At Close Quarters

THE girl turned into one of the highways radiating away from the mighty city like spokes from a wheel's hub followed a long line of speeding cars. The roar of the metropolis gradually receded like the wave of a giant sea. Lights of speeding cars stabbed the gloom of open spaces flitted and danced like monstrous fireflies.

It was nearing sunrise when the girl brought the car to a stop, shut off the motor. The great golden moon was dipping behind a forest-crested ridge; stars were fading from the gray heavens. A cold wind whipped the nearer trees and underbrush. Over the gray ribbon of a highway far below hundreds of cars were crawling.

"This is as good a place as any for a camp," Lorna said, and opened the door.

Lance followed her as she stepped to the rough ground. Looked down from the top of a wooded hill into a little valley dotted with dim outlines of farm buildings. Even as he looked, something floated down from the gray sky like a monstrous bat; something that settled down gracefully to earth. Something huge and silent and menacing.

It was instantly veiled by the darkness clinging to the ground. A smothered, terrified cry jerked Lance around. Several people stood by the side of a purring limousine, their eyes glued to the spot where the batlike thing had settled down. It was from one of the fur-swathed women that had come the strangled cry of terror.

One of the men whirled around, plunged into the car. The others followed like sheep charged by a snarling wolf. The limousine jerked around, raced back toward the distant city.

"They've come!" Lorna's musical voice quavered slightly. Her slim fingers were biting into Lance Norden's muscular arm; in the dim light of the new dawn her face seemed pinched and oddly white.

"Looks like it, Lorna." His arm went around her supple waist, steadied her. His own pulses were pounding wildly with a tense excitement he vainly strove to master.

Gradually the sky grew lighter. Pink streamers commenced glowing along the eastern horizon. Wisps of rosy clouds heralded the coming of the sun. The wind was growing stronger, keener. The shadowy thing down in the little valley began gathering shape.

"We'd better park the car behind those rocks," Lance said. His voice sounded harsh and strained. "They can see it from down there. We don't know what they are, or what they'll do."

The girl nodded, climbed into the machine. Five min-

utes and they were peering down warily from a brush-screened rock-shoulder. Slowly the shadows shrouding the valley's floor began lifting. And the watchers stared down on something that looked not unlike a gigantic cigar made of metal. Something long and narrow with pointed ends that glistened dully in the growing light of the dawning.

Not a flicker of motion came from the fearsome object; not the faintest whisper of sound. It might have been a coffin of a strange dead.

The faint humming of planes snapped eyes of the watchers skyward. Three ships of the air, flashing like silver birds in the first beams of the new sun, raced out over the valley, began circling lower and lower. And from the silent thing on the grass stabbed out jets of blinding light. Livid lightning!

A scream tore from Lorna's white throat as a plane reeled crazily, burst into a red whirlpool of flame. Another was plunging earthward like a flaming torch. The third zoomed like a soaring hawk, dipped, glided, spiraled in a desperate race for life. Flickering lightning followed as surely as hounds close on the doomed rabbit. A blinding flare! The plane slid sideways in a swirl of fire.

Lorna huddled in the thick brush, long shudders racking her body. Her lips were a bloodless line in her blanched face, and she was veiling her eyes with quivering hands.

"Steady, girl, steady," Lance whispered, and slipped an arm around her heaving shoulders. "Don't move. Those devils are stirring."

Lightly as a floating feather, without hum of motor or running movement, the fearsome cigar-like thing was rising from its grassy bed. Straight up like a soaring bird. From one end of the glistening shell lightning flashed. An automobile speeding along the gray ribbon of a highway hurtled off the grade as though struck by an invisible hammer, spurted fire and smoke.

"The slimy devils," Lance muttered hoarsely. "Killing for the mere lust of it. The dirty fiends!"

The hellish, glistening craft half-circled lazily over the little valley, floated like a sluggish buzzard toward the rise from which Lance and Lorna watched with wide eyes. Settled down a few hundred yards away as a bird settles on its nest.

Then—strange, awesome forms were coming out of the shimmering thing. Blocky figures seemingly made of yellow metal. So wide and thick were they that they seemed little taller than dwarfs. But some towered head and shoulders above the rest. And the tall ones were smooth of skin with copper-colored hair streaming down their massive backs. The shorter creatures were hairy as apes.

The mighty creatures faced the rising sun, dropped to knees and stretched arms high above their shaggy heads. From their throats burst a wild, barbaric chant. Such a chant as the saber-toothed tiger and hairy mammoth might have known when primitive man howled adoration to the glowing, warming, life-giving Sun—the only god he knew.

AND the golden faces turned to the sunrise wore expressions of unbridled ferocity. A savagery that showed even through the matted hair almost covering the visages of the shorter creatures. Yet, they were plainly close to humankind.

"Look, look, Lance!" Lorna whispered fiercely. "Those big creatures. They're—females!"

Lance nodded as he eyed the worshipping creatures from behind a leafy screen. Already he had guessed the truth. The huge invaders wore only metallic-looking skirts from waist to knees. And the women were plainly stronger, larger and fiercer than the men.

The wild chant abruptly ceased. For a long moment the worshippers knelt with heads bowed low. Then they were rolling in the lush grass, clothing part of the ridge, rolling like frolicking animals, burying faces in the thick verdure with wild animal cries. A woman tore a mighty rock from its ancient rest, held it high above her coppery head, hurled it far down the gentle slope. Screeched like a maniac as she watched the boulder bound down the slant like a gigantic football.

"Lance," the girl caught wildly at his arm. "We can't face such beasts and live. Our greatest athletes would be helpless as children in a grasp of those devils."

"Hush, dear. If they find us here, we're lost. We can't face their weapons—not yet. But we'll find some way of beating them. Every scientist and inventor in the world must be working right now on something to beat them."

The creatures were bounding around like great apes. Now and then one paused in the wild dance to hug a tree, or roll in the thick grass. Their golden bodies and coppery hair glistened in the morning sun with a metallic sheen. Muscles stood out on the mighty arms, shoulders and backs like knotted cables.

A shadow flitted across the sunlight. Instinctively the man and girl glanced up. Another of the hellish airships was floating down through the bright air. In the strong sunlight it glittered like burnished aluminum, dipped and wheeled noiselessly like a monstrous bat pursuing prey. Wild howls burst from the watching creatures on the ridge, and they waved thick arms frantically.

Like an answer a battery of artillery raced to the crest of the opposite ridge. Khakiclad forms were leaping from racketing trucks, springing to the gleaming guns.

Forked lightning lashed out from the noiseless thing in the air, jetted from the glistening shell on the ridge. Flames played and darted over and around the guns and the forms in khaki. Long ripping, splintering crashes. The thunderous roar of detonating powder. Smoke, riven by lightning flashes, mushroomed from the ridge.

Slowly the thick cloud of smoke and dust was brushed away by the strong wind. And where had been trucks and guns and fighting men was only a heap of twisted metal! Wild, triumphant howls burst from the thick-bodied creatures on the ridge.

Lorna sank down despairingly in the thick brush, hard, dry sobs shaking her splendid form. Cold beads of sweat trickled down Lance Norden's face. Terror gripped his stout heart with icy talons.

"Oh God! oh God! oh God!" Lorna panted. "Lance, we've got to get . . . get out of here."

"Don't even breathe louder than you must, girl," he answered in a hoarse whisper. "We've got to hide here like rabbits until they leave. Thank God, we've got the car well hidden."

The second airship floated down beside the one nesting on the ridge. For several minutes the newcomers talked with the others, then the first glistening shell soared into the blue heavens. Almost instantly it was a mere speck in he sunlit sky, traveling at incredible speed.

"Gone to get a fresh load of the hellions," Lance mused bitterly. "They must be dropping all over the country just like they are here. Killing with those hellish things; destroying like fiends. And we can't do a thing to stop them."

He bowed head in hands, tried to rally his scattered thoughts. He was like one gripped by a hideous nightmare. Beside him he could feel the girl quivering like a bird gripped by a merciless cat. He had a revolver in his suitcase, but what could such a puny weapon avail against the weapons those devils carried?

The clashing of rocks drew his eyes back to the metal-like creatures. Several of the short, thick-bodied males were building something that resembled a crude altar. Others were leaping down the slope toward the green valley. Here and there stalked a female, plainly issuing orders to the toiling men. As one of the women came nearer, Lance could plainly see that her massive arms were litterly covered with greenish ornaments which sparkled and flashed in the strong sunlight.

Chains of the same strange material encircled her mighty neck, decorated her column-like legs. In her girdle she wore a long, tapering, tube-like thing that gleamed like a polished knife. As Lance watched her with fascinated eyes, the woman dropped a hand to the gleaming tube, whipped it out.

Lance squirmed slightly around to follow her gaze. Down in the little valley a cow was pushing into the open from a little thicket. A yellow blaze spat from the tapering tube in the woman's hand, lashing through the sunlight like a brilliant streak of gold. The distant cow dropped in its tracks as though felled by an invisible axe. Deep-chested roars burst from the squat figures plunging down the ridge's slope.

FOUR blocky men raced toward the slain animal, covering the ground in great running leaps. Stooped, hoisted the carcass atop mighty shoulders, lumbered up the slant. A few minutes and the savory odor of roasting beef drifted from behind a rocky point.

"If I could only get hold of one of those hellish tubes!" Lance murmured as the girl moved closer. "They think they've got us all running like rabbits. That's a chance for us. If I could only surprise one of those women—"

"Something's watching from that airship," Lorna warned. "You saw what happened when . . . when those soldiers . . . We thought they'd all come out. And then that terrible lightning flashed out."

Lance nodded soberly. "They look like brutes, Lorna, like horrible metal brutes. But they've got brains. Did you notice that woman's high forehead? And they are masters of natural laws that we hardly comprehend. I'll wait till night comes. Maybe—"

"Listen!"

It came faintly at first—a deep resonance from behind them. Warily they squirmed around in the concealing brush to stare down on the gently rolling terrain. Steadily the booming sound deepened, gradually translated itself into deep voices sounding like a paean of barbaric triumph.

An answering chant came from the blocky forms near the glistening airship. Then Lance and Lorna glimpsed golden figures striding up the long slope toward the ridge's wooded crest. Scores of them. And behind the thick-bodied, metal-like forms came a little band of faltering, stumbling women and men. Beside and behind them stalked more of the fearsome space creatures. In the garish sunlight the stripped bodies of the Earth people seemed oddly white and pitifully frail against the massive forms surrounding them.

Their hands were bound behind their backs; lengths of tough vines linked them together. A thin girl swayed weakly, almost stumbled to her knees. A yellow arm went up, brought a long switch down across the girl's pale shoulders. The girl screamed wildly, staggered on.

Like one gripped by a hideous charm, Lorna Lansing and Lance Norden watched that dreadful procession move to the top of the ridge; watched it jerk to a halt before the crude altar the invaders had erected. From the knot of waiting figures stalked a huge form.

For a long moment she appraised the shrinking captives with coldly calculating eyes. The glittering green bands circling her golden arm seemingly radiated sparks as she pointed out her choice. Two females stepped forth, clutched a man in their mighty grasp. He was powerfully built, according to Earth standards, with arching chest and bulging shoulders. But his struggles were as a child's as he was dragged to the horrible altar.

Lorna turned her eyes away, held hands over her ears. Lance wrenched his gaze away from that hideous scene with a conscious effort. He burned with a mad urge to rush to the aid of the captives, to kill all the fiends he could with his revolver before he was himself struck down. But he knew his best efforts against the terrible lightning-tubes carried by those grisly females would be as the battle of a feather against a cyclone.

Hoarse chanting was beating on the air like the hammering of a battering surf. It drowned out the gasping screams of the victim, maddened by its very monotony. For an age it seemed to endure; then, silence was brooding over the countryside. From somewhere in the brush a bird began twittering softly. And then there was a long, quivering scream.

"Lance, are they killing them all?" the girl gasped.

He raised his head cautiously, peered through the interlaced branches of a clump of wild rosebushes. The creatures had moved away from the altar, were pulling the prisoners close to the glistening airship. A golden woman gripped an Earthman by a shoulder, jerked him away from the other captives, bore him to the ground. Pressed something against the white flesh. Instantly came a hoarse, roaring bellow of agony.

Another of the females was turning a pale body under her own golden bulk. A woman's wild scream rang out.

"Are they killing them?" Lorna repeated.

Lance laughed a low, bitter laugh. "No, they're not killing them, Lorna. Looks like the devils are branding them. Must be they are making slaves of them."

The girl raised her dark head, looked through the thick branches. Although she still wore her heavy coat, she was shivering. Shrieks were coming now in one long ripple of hideous sound from the captives as they were seized and branded. Here and there a huge golden form dragged away a writhing slave. One extended a long golden arm, pointed out the shadowy outlines of a distant town. Several of the blocky creatures began to lumber down the long slant of the ridge.

"Going for more slaves," Lance surmised bitterly. "Looks like the ladies haven't enough to go around. They're sure a nice, sweet lot of yellow hellions."

CHAPTER III

Capture!

LORNA turned her head, regarded him with steady eyes. "Lance, what are we going to do? We can't stay here. We haven't any water, and we'll perish of cold. And we daren't start the car."

He clasped her hand with steady fingers. "Lorna, what we've been watching must be going on all over the world. But there must be some way of beating those yellow devils. They're coming fast; but we're still millions against their hundreds."

"But we're as helpless as rabbits against those terrible weapons."

He nodded soberly. "We've got to get hold of one of those hellish things, Lorna. Got to have our scientists analyze 'em and find some means of guarding against 'em. Those fiends think we're paralyzed by terror. They look on us just as we look on animals. They don't even dream

any Earth dweller would try anything . . .I'm going to try for one of those lightning-tubes."

"But, Lance, how—"

"Going to try and surprise one of those females. They haven't the least idea we're here; or we'd have been . . ."

"Yes, I know," she said steadily as Lance paused. "I'm going with you . . . Lance."

But he shook his head. "No, dear. I've got just the gossamer thread of a chance. One can slide through that brush without making much noise. I've been in the jungles five years, dear. There's the one chance in a million that I may be able to knock over one of those brutes and get her lightning-tube. If I'm lucky; well, there'll be a few less of that brood," he finished grimly.

"But let me slip along behind you, Lance," she pleaded. "I—I—don't wan't you to leave me. I can't stand staying here—alone."

"Yes, you can, dear. I've got to go, dearest, while there's a ghost of a chance. Before more come."

She lifted her face to him, her lips quivering, her dusky eyes shining like stars. He caught her to him, kissed her fiercely. Then pushed her arms gently from around his neck, slipped away with the silence of a stalking wolf.

He reached the hidden automobile, secured a heavy wrench. Called guardedly to Lorna that he had left a revolver for her. He knew he must strike silently against the grisly creatures. One shot would spell disaster—not only for him but also for the girl he loved. And perhaps countless multitudes.

Like a shadow he slipped through the thick brush, moving from boulder to boulder with the silence of some creature of the wild. As he neared the hellish creatures he flattened against the ground, paused to listen with straining ears. He could hear the deep hum of hoarse voices. Warily he raised up behind a wind-shaken bush, studied his surroundings with quick, darting glances.

Some fifty yards away a little group of the creatures were feeding. Kneeling white slaves served their mighty mistresses, but the shaggy males sat by themselves. The huge golden women were eating and drinking from vessels of glistening, greenish metal. Finally one of the huge females stood up, stretched lazily, sent her slave reeling backward with a savage slap. Stalked toward a belt of high, waving grass.

Lance Norden breathed deeply, tightened his grip on the heavy wrench, followed like a shadow. His pulse was pounding wildly, but he felt strangely calm.

Lance began circling a ragged shoulder of gleaming rock Inch by inch he crept through a tangle of thin brush. Where the bushes grew close to the tall grass, Lance peered out cautiously. The great woman was stretched out in the grass, basking in the blazing sunlight like some strange golden animal.

Lance slipped across a narrow path, cutting through the brush, inched through a clump of scattered rocks. He had to come up on the terrible creature from the rear. He was stalking the most terrible animal Earthman had ever marked for prey. He must stun this creature with the first blow, or be blasted to atoms by the terrible lightning-tube the female carried in her girdle.

He whirled like a cat as a twig snapped behind him. Whirled to face a huge man carrying a short, savagely knobbed club of shimmering metal. The creature was a good six feet tall, but so thick and wide as to seem almost a dwarf. He was clad in but a breech-clout, and thick, coppery hair matted his huge frame. His head was round and incredible shaggy, with the small green eyes blazing with the lust of murder.

With a snarling growl he hurled himself upon the startled Lance, whirling up his terrible club. Lance flung himself sideways as the creature charged; felt the knobbed club whiz past his head. Savagely the Earthman lashed out with his heavy wrench. The creature growled hoarsely as the weapon thudded against his shoulder, leaped away, swung the club viciously.

Again Lance slipped away from the ferocious charge. And his wrench crashed full on the huge, shaggy head. Went through thin bone and flesh as though it had struck an eggshell, went down and down. The huge, yellowish form crumpled down like a tree blasted by lightning.

And as the creature thrashed about on the ground, Lance cried out with the agony of invisible fire wrapping him from head to foot. He was flung to earth by a paralyzing shock; his senses were reeling crazily with the blinding torture of the scorching waves racing through him. It was as though he was being bathed in liquid flame

HE sensed he was writhing on the ground like an impaled snake, that moans of frantic pain bubbled on his pale lips. Fiery mists whirled around him, dragged him down to a blazing hell . . . Then, the blistering torment gradually ceased. Something was prodding his quivering body, prodding insistently, brutally. Something incredibly hard and sharp.

Lance rolled up pain-filmed eyes, stared up dazedly into a cruel, golden face. Orbs of glowing green bored into him. Dimly he realized it was the fearsome woman he had been stalking—the creature he had hoped to surprise and strike down. She was gouging his side with a metal-shod foot.

Lance winced away. Instantly the creature tilted the tapering cylinder in her hand. And Lance felt as though a thousand hornets were stinging him. He flung himself sideways, shrieked with the thrilling pain of it. The creature stepped back, motioned him to stand up.

Feeling miserably weak and helpless, Lance obeyed that imperious gesture. The woman towered head and shoulders above the Earthman's own six feet, but her huge bulk gave her a queer, blocky appearance. She moved slightly, and her ropelike muscles crawled and bulged under the golden skin. Her skirt, seemingly woven of bronze fibre, only accentuated the mighty lines of her form.

Pointed, glistening teeth showed under a lifted lip as she appraised the Earthman with eyes as cold and merciless as a jungle beast's. And Lance knew he was in the power of a soulless thing knowing no law but its own savage instincts. Blind, animal fear gripped Lance Norden and shook him.

The watching creature laughed loudly, gloatingly; the horrible snarling of tigress clawing its victim. In a blur of speed she thrust the lightning-like tube into her girdle, flicked out a mighty hand. Thick, warm, moist fingers closed around Lance's mouth and nostrils, dug into flesh, jerked him closer.

Her other hand darted to the man's buttoned coat. Wrenched clothing from him with a single savage tug, baring him to the waist. She dropped the tattered garments, raised her hand, slapped him full in the face. It was like the cuff of a bear. It sent him reeling, shook him to his toes. Another stinging smack.

Savage rage flooded Lance Norden as the thick fingers striped his face with red welts, driving out the fear as a mighty wind shreds away smothering fog. If he could only get his hands on that hellish cylinder in the creature's girdle!

If he could only blast her and all the fiends like her to the four winds of the world! Crush her hateful head as he had crushed the eggshell skull of the hairy man-

brute! If only he could get that gleaming, deadly, mocking lightning-tube!

Her moist, oddly warm hand clamped down on his naked shoulder like a vise. She jerked him close to her great breast, holding him powerless with a mighty arm. Slapped him full in the mouth. Chuckled wolfishly as blood beaded on his crushed lips. Struck again. Mouthed taunts in some strange gurgling, rasping tongue.

Wildly Lance struggled to break free from the terrible embrace. And as he squirmed, the creature's face convulsed with fury. She whirled him off his feet, flung him headlong. Then he was facing the rocky ground, with her mighty bulk pinning him down. It was as though tons of lead were crushing him into the earth.

Searing heat neared his shoulder! Lance squirmed frenziedly. Bellowed hoarsely as glowing metal bit into his crawling flesh. Desperately he struggled to writhe out from under that fiendish weight. His breath was coming in great laboring gasps; cold sweat of agony bathed him. He could feel his eyes starting from his head with the blinding pain, feel his hair bristle.

The scorching point of the branding-iron was moving slowly over the back of his shoulder. The world whirled around him in a black fog, shot through with red flashes of hideous pain. It seemed to the tortured man that his whole body was about to burst into flames.

Then it came to him that the searing metal no longer gnawed into him; that the crushing weight pinning him to earth had lifted. But his branded shoulder was a blazing hell of agony. He opened his eyes as he was rolled roughly over on his back.

Coppery hair, coarse and harsh as the hair of a horse, brushed his face and chest. Eyes green and merciless as a cat's glared down on him. The woman's thin lips rolled away from pointed teeth in the terrible ecstasy of cruelty. He winced as her hard hands stung his naked sides with vicious slaps.

And it came to Lance Norden that although this hellish creature had marked him with the sign of slavery, he was not to live. She meant to kill him slowly, lingeringly—because he had slain her shaggy man. He could read it in her cold eyes. She wasn't a woman, just a ghoul made in the semblance of a woman.

And again wild rage gripped him. His burning eyes shifted covertly to the tapering lightning-tube in the creature's metal girdle. Beside it was the pointed branding-iron and a thick-bladed knife. With the eyes of the engineer he noted the slight projection on the coil handle. He was to die on a bed of hideous torture. The thought hammered on his brain like a mallet.

And millions like him would become cringing slaves of hellish creatures like the green-eyed brute playing with him as a cat toys with a mouse. Lorna would be caught and stripped and branded! He writhed with the horror of it.

As she grasped him again, Lance's fingers closed on the handle of the tapering cylinder, began inching it from the creature's girdle.

Fighting down the pain wrapping him like a garment, spurred by desperation, Lance whipped the lightning-tube from the metal girdle, jabbed the end against the creature's side, pressed the little projecting knob as far as it would slide.

Instantly came a crackling burst of livid flame. A stunning shock.

DAZEDLY Lance realized he was on the ground, quivering jerkily as though he had received a severe electric shock. For a desperate moment he thought he had failed; that the woman had outwitted him at the last minute, was twisting him with new torture. Then he saw he still gripped the lightning-tube.

There was a strange, pungent, sickening odor. Lance twisted around, jerked back with a strong shudder. Where the creature had squatted was but scattered heaps of smoking flesh and bone. The annihilating lightning-blast from the tube had literally blown the creature to fragments!

Lance Norden bounded to his feet. Any moment more of the devilish creatures might appear. But a high shoulder of rock and thick bushes concealed this sheltered dale from any eyes peering down from the ridge. He darted into a clump of prickly bushes. His branded shoulder burned and throbbed savagely. But he was conscious only of a savage urge to destroy every hellion infesting the shuddering earth.

Halfway up the slant of the ridge he paused. Blind, wild rage calmed to more deadly, cold fury. He had to think of Lorna and the other countless Earth people. He had the gossamer filament of a chance, now, to surprise the fiends and capture their space ship. With that craft in their possession the scientists of Earth would be enabled to know the mighty forces the creatures had mastered.

Lance began stealing toward the ridge's crest like a shadow. Already he could hear the hoarse, rasping voices of the invaders. Harsh, animal-like laughter. The shrill, piercing scream of an Earth woman rang high in the cool air. Lance started as though he had been spurred. Again the woman screamed.

Gliding from the shelter of a rounded boulder to a low screen of thin bushes, Lance rose to his knees, parted the interlaced branches with infinite caution. Peered through. He saw naked limbs thrashing about on the brushy sward. Saw fiendish creatures regarding the scene with torture-pleased faces.

A slim girl flung her nude body sideways, screamed shrilly as one of the blocky females flicked her with a ray from her lightning-cylinder. Another of the loathsome creatures leveled her tube. The girl shrieked, leaped to her feet as though spurred.

The watchers rocked with hoarse merriment. Against a rock cowered a dozen of the pale-bodied, terrorized slaves. A man roared with agony as a ray flicked him. Bounded and writhed as more of the tubes stung him, drove him close to the screaming girl.

"The slimy devils!" Lance gritted. "The damned fiends!"

And leveling the lightning-tube he had captured, he pressed the knob on the coil handle. The creature spurring the girl with the torturing ray dropped like a lightning-riven pine. Lance shifted the golden ray. Another of the hellish things was blasted to fragments. Three more were blotted out before the others realized what was happening.

With a yell, Lance sprang to his feet, charged the creatures. Two more dropped in smoking heaps. A female whipped her tube from metal girdle as she bounded sideways like a gigantic ape. But she was annihilated as she leaped by the vengeful Earthman.

Lance was racing for the glistening space ship. Howling and screeching like fiends, the creatures were plunging against each other, fighting wildly to gain the shelter of the silvery craft. Even in that wild moment Lance noted that the lightning bolts were not harming the glistening ship, but were glancing from its silvery side as light reflects from polished metal.

A nude slave screamed horribly and went down in a smoking mass as lightning forked out from a tube gripped by a creature. Lance shifted, crumpled the screeching

killer with a quick tilt of his weapon. A groan tore from his tight throat as a huge form reached the space ship. He was too late!

The creature leaped for an opening in the silvery shell. Flung out great arms and crashed down as a revolver roared! A shaggy male pitched sideways with spat of flame from a clump of brush. Again the revolver barked spitefully.

Lance gained the opening of the ship with a flying leap. Whirled in time to drop a howling creature and slammed the silvery door shut. His darting eyes focussed on a long, tapering, gunlike tube. Just above it was a small window. Lance darted to the tube, peered through the blue-tinted, crystal clear substance composing the window.

His hand found the knob on the handle of the tube, shoved it. Instantly a sheet of lightning flared from the side of the ship. The burst of radiance caught a group of the leaping creatures, blasting them to smoking fragments. Brush and trees in the path of the lightning burst into flames. A huge boulder was dissolving.

The Earthman's hand released the bomb, which snapped back to the head of the tube. He saw one of the shaggy men stoop and snatch up a tube one of the females had dropped. Either his dull brain had ceased to function, or the creature cherished savage hatred for the females of its own kind. For it raised the tube and thumbed on its full power.

Three of the remaining females withered under that vengeful blast of destruction. Another sprang wildly as the golden ray seared her shoulder. Then she, too, was blasted to atoms. And at the same instant the shaggy man was struck down by a blast of forked flame. The creature destroying him whirled like a cornered panther, pointed her death-tube at a cowering slave.

She was too far to one side to be reached by a lightning bolt from the ship. With a yell of fury Lance Norden wrenched open the door, sprang out. The creature murdering the shrieking white slaves spun around, warned by sheer instinct. The ray from her tube caught one of the shaggy males. He dropped. Then the fierce woman literally melted as she was struck by the full force of Lance's weapon.

Some sixth sense buzzed a warning in the Earthman's brain. He flung himself sidewise in the quick duck and roll of a dodging leopard. Felt blistering heat sweep past him. The female who had been wounded by the mysterious revolver bullet was on her knees, leveling the tube at him with shaking hands.

CHAPTER IV

Flight!

FEELING as a man feels when he stamps life from a rattlesnake, Lance tilted his lightning-tube. The venomous woman withered away in the flame of death. Two blocky forms were plunging wildly for the cover of a clump of rocks. Lance burned them down with savage flicks of his terrible tube. The sight of the smoking remains of the murdered slaves had driven the last spark of mercy from his heart.

"Lance! Lance! It's all over. Lance!"

The musical voice came from a clump of brush. Lance Norden checked his hunt for more of the fiendish creatures, shook his head like a man trying to clear his brain of a maddening mist. He was sure he knew that voice.

"Lorna! Where are you?"

She came out from behind a brush-topped rock. One firm hand gripped a revolver. Her gauzy evening dress of red silk hung around her in tatters, and her black hair cascaded down her bare shoulders in splendid turmoil. Her dusky eyes were filmed with horror, but there was no hint of fear in her lovely face.

"Quick! Inside the ship," Lance cried. "Those devils can't harm us there. Quick! Before more come."

He watched the girl flit into the silvery craft with the lithe grace of a deer. Called to the remaining captives to come to the refuge. They came creeping out from behind rocks and through bushes like creatures rode by a hideous nightmare. Horror sat in their wild eyes, and they moved like people stunned by a calamity they hardly comprehended. They scurried into the space ship like scared rabbits as Lance urged them to hurry. Four women and two men.

Hurriedly Lance began gathering up the scattered lightning-tubes on the ground. The Earth people would have desperate need for the weapons in their war with the invaders. Lorna darted out from the silvery shell, stopped and picked up a couple of the hellish things.

"We've got enough, dear," Lance warned. "We can't take any more chances. Look out that you don't touch those knobs, Lorna. Hurry!"

"We've got to get some things in the car, Lance," she reminded. "There's some food there—and clothes. We're both nearly naked, boy, and those poor creatures . . ."

"I'll drive the car over here," he answered hurriedly. "Just carry those tubes inside, dearest. Keep the door shut. If any of those devils show, just give 'em a blast from one of those long tubes in the ship. Just push the knob and hold it."

She nodded, darted inside the silvery, cigar-shaped shell. With a lightning-tube in his hand, Lance raced over to the hidden automobile, climbed in, pressed the starter. Three minutes and he was handing suitcases and packages to Lorna through the narrow doorway of the space ship.

"We'll just have to kiss the car goodbye, Lorna," he grinned as he stepped into the silvery craft and closed the metal door.

"We're just trading it for this marvelous ship," she answered with a brave little smile. Picking up a suitcase she carried it over to where the four woman huddled together like stunned sheep.

Lance Norden strode over to the pointed head of the ship, began examining the mysterious power-plant with the trained eyes of the engineer. Huge coils of greenish metal almost filled the extreme end of the cigar-like shell, with rubbery material separating them. From coil to coil vivid blue light streamed in pulsing waves with a soft hissing and swishing.

From the heart of the nest of coils radiated in a small arc a series of long, black tubes, connecting with a small, compact, boxlike machine. Lance glanced from the coils and tubes to a long lever fronting a wide seat, then up to a long slab mounted above the hissing coils.

The slab was apparently composed of a peculiar substance resembling asbestos, and was set with several switches, control-buttons and two dials. The engineer's trained mind was working swiftly, logically, coolly as he studied the purpose of each section of the mysterious power-plant.

"That boxlike apparatus must contain the propelling mechanism," Lance mused. "The electric power is generated by those coils. One of those switches controls the means of heating the ship. The others must release oxygen and control the lightning system. This lever seems to control those coils."

Gingerly his hand went to a black switch, pulled it down a notch. The electric-blue waves instantly became one wide sheet of dazzling radiance between the green

coils, and the box-like machine hummed dully as though a million bees buzzed within. Lance shut off the mysterious power, experimented warily with switches and buttons. Sighed with satisfaction as a switch released a hissing jet of life-sustaining oxygen.

"Can you run it, Lance?"

HE turned to smile into the eager face of Lorna Lansing. "I'm going to try, Lorna. I've played around with planes and done some other things in a misspent career. This ship is a wonder, girl. Beats anything our Earth people ever turned out. And I'm sure going to try to run it. Got to."

"Oh, Lance! They branded you!" Her wide eyes focussed on his pain-racked shoulder. "Boy, what happened?"

He shrugged lightly. "One of those creatures treated me a bit rough before I got her lightning-tube." He caught both her hands in his. "Lorna, if you hadn't risked everything and shot down that creature as she reached this ship, we'd have been stamped out. You are sure one game girl."

"I had to do something," she answered. "I couldn't wait any longer, and when I saw you slipping through the brush I thought I might be able to do something. Those fiends were so busy . . . torturing that poor girl . . . I thought I had a chance. I told you last night I wasn't a weeping willow," she added softly.

"We're going to win out, Lorna," he exclaimed, a bit wildly. "We can't fail, now. They can't reach us inside this shell with their tubes—"

"I'm going to fix those wounds, Lance," she announced firmly.

She flitted over to an opened suitcase, was back in a moment with disinfectants and strips of cloth. She coated the branded shoulder with cooling powder, cleansed and bound up the lacerated wound in his chest. Helped him to get into a shirt.

He caught her hands to his lips, then dropped into the seat in front of the coils and the strange, pulsing blue waves of vivid light. Reached up to the switchboard and drew the black lever down a notch. Came instantly the dazzlingly blue glory between the green coils and the low hum of the driving mechanism. Gently Lance pulled on the long lever in front of the pilot's seat.

The ship barely quivered, but through the window above the switchboard Lance could see the terrain moving beneath the ship. He drew the lever a bit closer, and the craft nosed over a clump of trees with the silence and effortless ease of an eagle. Experimentally he pushed the lever back to neutral. The ship hung motionless in the bright air like a resting bird.

"Oh, Lance," Lorna cried with delight, "you can handle it."

"Kind of looks that way, Lorna," he grinned.

"But where can you go?" Again her face was grave with dread. "Those terrible things must be everywhere, Lance."

He nodded soberly. "I've got to reach some of our scientists. Once they can analyze those lightning-tubes and the metal forming this ship, we'll be able to fight those devils with their own fire. I've got a friend at Elmira—Dr. Barlow Sterns. He's one of our greatest scientists."

"You're going to try and reach him?"

"It's our best chance. It's more likely that other scientists will be consulting him than that he has left his laboratory."

Pulling back the lever a trifle he sent the ship climbing upward until the arrowy pointer on one of the dials had crept through the thirty-second of a strangely marked arc. Leveled the craft out and swung her around until she headed northwest.

He looked down from a side-window. The earth looked like a green blur. He guessed he must be a good mile above the ground. Gently he nosed the ship down until earthly things became a trifle distinct. He knew the strange space craft was shooting along at ripping speed.

Lance reached for the black switch, pushed it up gently until the blue light streaming from the coils glowed less vividly. He glanced up at the steady-eyed girl. "That slows us down. I'd give a lot for a control board I could read. I'm just guessing at altitude and speed."

"We're passing over a small town," Lorna informed, peering down from one of the small windows. "Looks like that road over there is literally covered with abandoned cars. At least, they don't seem to be moving. We're still pretty high."

Lance nodded soberly. "People must be pretty badly frightened. Most likely they've taken to the hills and bush. Trying to reach places they think the devils won't find."

He eased the ship down until the objects below them became sharply distinct. In the distance a train was speeding toward rolling hills. Here and there on the gray ribbon of highway an automobile raced at top speed. By the way he passed all moving objects Lance knew the space ship still rocketed through the atmosphere like a comet. He cut down the electric-blue energy flashing from the green coils until the steady stream of radiance dimmed plainly.

He circled to scan the heavens with danger-sharpened eyes. He knew he faced not only the menace of an attack from venturesome flyers of Earth, but the possibility that the bestial invaders were already seeking him. The fearsome invaders were certain to have means of communication between their space ships.

"We're nearing a good-sized town," Lorna warned. "I can see buildings and high chimneys. There's a river—"

"It's Elmira," Lance interrupted swiftly. "The river's the Chemung. I see a landmark I know. I'm going to try and come down in that open field over to the right, close to that clump of trees. Can't chance a landing field. Those people down there think this ship is loaded down with brutes—and I'm not sure this shell would stand up under machine-gun bullets."

"Look, Lance," the girl cried. "There's hundreds of automobiles speeding away from the city. The highways are choked with them. And people are running."

"Sure. Radios have been broadcasting warnings ahead of us."

HE slipped the ship down, shut off the power, easily guided the great craft to a wide strip of level ground. The ship settled down on the grassy sward like a great bird, crept a few feet under the screen of high trees.

Darting over to his open suitcase, Lance found a notebook and fountain pen, and quickly wrote and signed a message. Glanced over to one of the men he had taken into the ship. The man was now dressed in one of Lance Norden's suits, but he still looked pale and badly frightened. He looked up with a violent start as Lance called to him.

"Listen," the engineer said crisply. "I want you to take this message to Dr. Barlow Sterns. Get that? Ask any one you see to take you to his laboratory. Everybody knows him. There's a dozen abandoned cars over on that street. Hurry!"

The man hesitated, passed a shaking hand over his pallid face. He was a big, heavily built individual with a

pronounced paunch, and seemed on the point of bursting through his tight clothes. He somehow conveyed the impression of smug prosperity.

"I—I—can't," he stammered hoarsely. "My God! man, I'm sick. I daren't go out—My God! man, they branded me!"

"One of those hellions tortured me, branded me," Lance grated. "We haven't got time to think of ourselves. Brace up, man! Get hold of yourself. I'm asking you to do this because I daren't leave this ship."

"I'll go, Lance." It was Lorna's voice, cool and steady.

Something like shame crept into the eyes of the big man as the girl spoke. His glance shuttled to the strained faces of the little knot of terrorized women huddled a few feet away, back to Lance and the steady-eyed Lorna. His big shoulders straightened.

"I'll go," he throated huskily. "You're right, old man. This is no time for a man to think of himself."

He took the message from Lance, lumbered from the ship as Lorna opened the metal door, ran awkwardly toward a big car parked at the end of the nearest street. The watching Lance saw a man run out into the sunshine as the messenger neared the parked automobile. For a moment the two talked excitedly, then the stranger sprang into the machine, closely followed by the other. The car roared away in a cloud of dust.

"That man knows where Dr. Sterns lives," Lorna cried in relief.

Lance smiled gently. "He must, Lorna girl. We've still got a fighting chance. Folks," he turned to the four women and lone man in the ship. "Maybe you'd better join that crowd gathering over there. You'll be more safe with them than here. This isn't going to be the safest place in the world when those devils come after us."

They regarded him with dull, hopeless, fear-ridden eyes. Finally, a woman stirred, walked out into the sunshine as though she bore the burden of the world on her bowed shoulders. The others followed like frightened sheep. From the staring crowd choking the street came cries of encouragement and sympathy. Several rushed over to aid the staggering refugees.

The eyes of Lance and Lorna Lansing met in a long questioning look. And the girl shook her dark head.

"I'm not going, Lance," she whispered.

He caught her hands, brushed them with his lips. "I knew you wouldn't, Lorna. Thank God, that America still breeds such women as you. We'll beat those slimy devils yet."

"You think they'll discover that we've captured this ship?" she asked after a brief silence.

"I think we should expect it," he answered slowly. "There's a radio transmitting and receiving set near those coils, Lorna. At least, it looks like one. If they spot this ship and we don't answer their signals, they'll know what happened. We're dealing with brutes possessing the brains of superior beings."

Minutes ticked away. Pushing, milling humanity began thronging close to the silvery ship, moved by the mainspring of overmastering curiosity. Lance noted that the face of most of the men and women were drawn with anxiety and dread, and that their eyes constantly turned to the sky. And he was keenly aware of the fact that not a single plane cruised the blue heavens.

Plainly, terror hung over the world like a pall. A sigh of relief escaped the engineer's lips as the growing crowd parted to allow two automobiles to speed through. One was a police car with a screaching siren. The machines jerked to a stop a few yards from the space ship.

From the police car leaped three men. The foremost was tall and lean with a remarkably keen face and deep-set grey eyes. The others had the faces of thinkers and the stooped shoulders of the student. The tall, grey-eyed man broke into a run as he came close. His keen eyes were fairly sparkling with eagerness.

"Come right in, Dr. Sterns," Lance grinned from the doorway of the space ship. "There's lots of things in here that's too deep for me."

The famous scientist shook Lance's hand warmly. "Glad to see you, my boy. You captured this marvelous contrivance? You and this young lady! My stars!"

The three scientists followed Lance into the ship, eyes wide with interest. Little whistles and exclamations of delight broke from their lips as they studied the blue radiance flowing from the green coils, and the mysterious apparatus below the switchboard.

Dr. Sterns straightened his long form after a quick scrutiny of the ship. "Gentlemen, this is no place to conduct our researches. We may be attacked any moment. You all know what the invaders are threatening; what they have done. We must take this marvelous contrivance to my underground laboratory in the Adirondacks, gentlemen. The fate of the world, perhaps, rests on our shoulders."

"Are the brutes raiding the cities?" Lance asked swiftly.

A thick-bodied man whose bright eyes were masked by thick glasses nodded his head. "They have rocked New York, Chicago, Washington and other cities with their lightning bolts. Debris chokes the streets. The loss of life must be appalling."

"This is no time for talk," cried a scientist sharply. "I am of the opinion of Dr. Sterns. We must escape with this ship to the Adirondacks—immediately."

"Careful with those tubes," Lance warned sharply as the thick-bodied man picked up one of the lightning-cylinders. "That knob releases those lightning bolts."

The other nodded, laid the weapon down softly. Two thoughtful men came into the ship. Both carried suitcases. It came to Lance that the grips contained science apparatus. The five scientists were talking excitedly as they appraised the ship.

"We are of the opinion, Mr. Norden, that we should leave at once for Dr. Sterns' mountain laboratory," stated a gray-haired man. "We dare not linger in this exposed area. The young lady—"

"Goes with us," Lance cut in positively. "But for Miss Lansing's courage we wouldn't have this ship now."

"I am sure, gentlemen, we shall be more than delighted to have the company of Miss Lansing," smiled Dr. Sterns. "Was not the great Herschel assisted mightily by a devoted sister? Miss Lansing, we already owe you a debt we can never repay."

The girl flushed rosily. Lance slipped into the pilot's seat, switched on the mysterious power, shifted the control lever. The hum of the strange power mechanism deepened to a steady drone, and the space ship left the ground like a soaring hawk. The five scientists pressed close to watch the blue, hissing radiance flowing from the coils of shimmering green.

CHAPTER V

Shadows of Doom

HILLS and trees seemed leaping away from the great ship, and the river was soon but a thread of silver. Lance zoomed the craft until an indicator on the dial crept through several markings, then leveled off and rocketed for the bluish outline of distant mountains. The

ship was sweeping along with the effortless ease of a giant condor. A sudden exclamation by one of the scientists jerked the narrowed eyes of Lance Norden to a side window.

Miles off a silvery shape flashed through the western heavens like a racing comet. Another of the hellish ships! And from covering clouds darted a swarm of planes. Lightning flared out from the space ship. Smoke of bursting shells filmed the bright sky as the planes opened fire.

Forked sheets of bluish fire were ripping the atmosphere around the darting, circling, rocketing planes. Two plunged down in flames like blazing torches. Another reeled and slipped like a bird with a shattered wing. Plumes of white smoke flowered out below and behind the space ship.

"Those flyers have lured that ship over a nest of anti-aircraft guns," Dr. Sterns cried thrillingly. "Brave lads! Dying gloriously that others may live . . . and forget."

Two more planes were dropping in swirling flames. White puffs of bursting shells showed above and below the rocketing space ship. A ripping sheet of lightning flared earthward from the silvery craft. Came a wide swirl of yellowish fire and billows of gray smoke.

"The devils have annihilated those gunners," groaned a scientist.

"But they got the hellions," Lance yelled. "Look! Look! They're crashing! They're hit!"

The great ship was drifting down, spinning and rolling on the wings of the strong wind. Now and then forked lightning stabbed out viciously as a plane ventured nearer the doomed craft. The ship was going down slowly, softly, like a huge parachute.

"Those wretches must have some mastery over the law of gravity," Dr. Sterns muttered. "They should be hurtling down in flames; they are settling to earth as softly as a leaf. But they can be crushed by our weapons. They are not invulnerable."

Three planes circled and hovered over the falling ship, spraying it with smoking lead. One was caught by a sudden stab of the deadly lightning, lurched crazily, dropped in flames. Fire and smoke mushroomed from the ground as the space ship settled gently down. The strange craft buckled in the center, seemed to fold up on itself.

"That bomb smashed them," exulted one of the staring scientists. "Brave boys. Those creatures are not invincible. It will cost us dear; but, if we can keep on destroying their ships—"

"Those planes are after us," Lance cut in sharply. "Those flyers think we're enemies." He pulled the control lever, sent the ship racing through the thin air.

"No danger from that quarter," Dr. Sterns stated quietly. We're traveling so fast that those planes seem to be standing still. We must be making at least two miles to their one. For the time we are more endangered by friends than enemies."

"Another fleet of planes coming from behind those hills," Lorna informed quietly.

"We're above their ceiling," Lance answered, "or I don't know a thing about flying. We must be flying higher than any plane of Earth has ever flown. And making a good six hundred miles an hour. Look at that cloud bank. We're a good mile above it."

The other looked down. Below them spread a gray, fleecy mantle of mist, blotting out the earth. The pursuing planes had vanished. Overhead stretched a sky of flawless sapphire. For a long moment Lance studied the heavens with narrowed eyes, then gradually eased the ship down until he could make out the dim outlines of bluish mountains. Slackened the roaring speed.

"Watch for trouble—everybody," he directed crisply. "We'll be wanting to come down pretty soon, and we don't want to be rubbed out by our friends."

"That radio has warned that any resistance means annihilation," a scientist observed dryly. "And many of our so-called leaders are urging that no resistance be offered. Thousands of our people are surrendering to the invading horde to save their lives."

"But it means slavery," Lorna exclaimed. "Horrible, hideous cringing slavery."

The scientist shrugged. "Man has endured the most inhuman tyranny to preserve his life, Miss Lansing. Human nature has not perceptibly changed sinced the days of the scientists."

"We are almost there, my boy," Dr. Sterns informed as he peered through the window in the front of the ship. "It's to the left of that rounded hill with the thick coverage of pines."

Lance nodded, swung the ship around in a narrow circle, scouted the sky and earth with sharp, darting glances. Below and ahead stretched wild mountain country, gashed by gulches and thinly carpeted by trees and underbrush. Here and there water flashed and sparkled. No sign of lurking planes or hidden guns.

Mountains seemed racing toward the great ship as Lance drove her straight for the rounded hill. He slackened speed carefully, eased the ship down warily. He sighed relief as the giant space cruiser drifted smoothly down to earth like a gigantic leaf. Guided it through a wide gulch and into a haven darkly shaded by overhanging crags and spreading oaks.

"Bravo!" applauded Dr. Sterns. "There isn't one chance in a thousand of the invaders finding us here. It can't be seen from the sky. Professor McPherson," turning to a stockily-built, ruddy-faced companion, "if you'll just set up your wireless outfit and establish communications with the War Department, it will protect us from any attack by our own forces."

THE thickset scientist nodded and proceeded to take a wireless set from a suitcase. A few moments and he was sending out a message to Washington. Lance and Lorna followed Dr. Sterns into a large laboratory, hollowed out in the rocky hillside. The place was lined with retorts, electric furnaces, carboys of chemicals, strange machines and shelves laden with instruments of glass and metal.

"I established this laboratory here three years ago," the great scientist explained. "I come here frequently when I desire to be free to carry on some important work. I am hopeful, I am very hopeful, that we will be able to analyze the peculiar metal of which the ship is built, and those terrible tubes. Once we understand the forces arrayed against us, solution of the problem becomes a fairly simple matter."

"It seems to me, Doctor, that if we could determine the nature of the metal covering the ship, it would be easy to protect ourselves from those lightning-tubes," Lance observed.

"Yes. Or, by experimenting with the ray itself we may be able to develop other means of defense. Those gentlemen you have met are all pre-eminent in their own special spheres of science. And this laboratory is splendidly equipped. You may have observed that Professor McPherson is using wireless telegraphy. The President has banned the use of the ordinary radio broadcaster as an act of national defense. We know that the invaders' scientists can hear and comprehend the spoken word. We are hopeful they are not cognizant of our silent wireless.

"Those brutes are still using the radio to threaten our people?" Lance asked.

Dr. Sterns nodded gravely. "They have ordered us to immediately destroy all our air bases, forts, scientific laboratories and all other potential means of offense or defense. Their ships have already searched out and annihilated many of our largest airports, arsenals and institutions of science."

"Are the tides still rising, Doctor?" Lorna asked.

"Not beyond the point recorded last night, Miss Lansing. I am of the opinion that they dare not venture their world too close to Earth. They have undoubtedly discovered some means of partly mastering the special type of magnetism we call gravity. But—"

He broke off as three scientists came into the laboratory. They carried several lightning-tubes, two long, shield-shaped slabs of silvery metal and some odd-looking instruments.

"We purpose to first attempt an analysis of this peculiar metal and these ray projectors," explained one of the scientists, a lean, tall man with greying hair. "Doctor Keppler and I have already demonstrated to our own satisfaction that the shields and the sheathing of the space ship are of like composition, at least insofar as being totally impervious to attacks of the ray." His deep voice held a note of quiet triumph.

"Splendid, Professor Allandyne, splendid," applauded Dr. Sterns. "The laboratory is at your disposal, gentlemen. And while you are conducting your researches, gentlemen, Professor McPherson and myself will endeavor to learn something of the strange power emanating from those green coils."

"This laboratory must be guarded, Doctor," Lance Norden reminded as the scientists began busying themselves with test-tubes and burners. "And the ship. We don't want to be surprised by those hellions."

The great scientist nodded his fine head. "Right, my boy. We shall rely on Miss Lansing and your good self, Norden, for guard duty. I assume the War Department will rush guards here. I shall ask that they be equipped with rubber gas-guns. Ordinary weapons are a hazard rather than a protection—with those ray-projectors."

He was bustling around the laboratory as he talked, picking out apparatus for his examination of the strange power-plant in the ship. Pungent, acrid fumes began filling the place as the other scientists bent over their experiments.

"We'll have to watch out for some venturesome souls of our own people," Lance warned Lorna as they left the laboratory and scouted sky and terrain with danger-sharpened eyes. "This is a lonely spot, but some eyes may have seen us come down here."

"We'll get a lightning-tube apiece," Lorna exclaimed. "There's several in the ship. We can watch the ship and laboratory from that heap of rocks over there, Lance." She pointed out a clump of boulders behind and above the laboratory. "We can watch everything from there without being seen by anyone. We'll have to have our coats, it'll be cold there."

Hurrying into the ship they armed themselves with the fearsome lightning-tubes, secured coats from their suitcases. Professor McPherson still bent over his wireless set, so absorbed in his task that he hardly noted their presence.

"Those scienitsts certainly need guards," Lance smiled as he followed the girl outside. "Once they settle down to their work they haven't ears nor eyes for anything else."

"It all seems like a horrible dream," Lorna murmured. "It just seems that it can't be true. The Earth invaded by beasts from space. Why, Lance, it seems impossible."

"Yes, I know it does, Lorna girl. But we've had positive proof that it's terribly, hideously real."

She shivered. "Yet it seems that it just can't be true."

THEY reached the rocky shelter, sat down on flat rocks shaded by overhanging willows. Scouted the sapphire sky and wild sweep of hills and broken country with danger-sharpened eyes. But peace seemed brooding over the countryside. Not a sound came to the strained ears of the watchers but the soft rush of water from somewhere below them, the twittering of birds in the brush, the keening of the cold wind.

Slowly the hours crept away. The sun gradually shifted toward the western hills, and long shadows began marching across hillsides and rolling country. Suddenly Lorna gave a little cry, pointed with trembling finger.

Like an arrowy messenger of Menace a silvery shape was flashing earthward from the blue heavens!

"Oh, Lance, they've found us," the girl panted, eyes wide with dread. "They're coming down—"

"Steady, girl." He caught her hand in firm fingers, squeezed it assuringly. "They can't see us nor the ship. They aren't likely to chance a landing in this rough country . . . See. They're nosing down behind those hills. Terrain must be fairly level over there. Look at her fluttering down. Just like a falling leaf."

"But that's only a mile or so away, Lance. We've got to warn Dr. Sterns and the others."

"Wait till they're down, Lorna. Those brutes have the eyes of cats—maybe they can see for miles. That's what they are, Lorna, cats. Cats made to the semblance of human beings. Hellish things with the eyes and instincts and cold cruelty of cats, and the brains of super-beings."

"They're down, Lance."

"I'll warn them, Lorna girl. Be right back. We daren't leave the place unguarded for a moment."

He slipped through the low brush extending from the rocks to the space ship, studied the surroundings with infinite caution for long moments, then slipped into the silvery air cruiser. Dr. Sterns and Professor McPherson were busy with a strange piece of apparatus that seemed to be made largely of tubes, disks and tiny colored lights. Apparently they were testing the compact, humming, box-like machine which seemed to get its power from the green coils.

The scientists jerked around as Lance called softly, listened quietly as he told tersely of the coming of the ship. "It would seem we are not menaced yet, my boy," commented Dr. Sterns thoughtfully. "It is unlikely that they know of our presence here."

"They are arriving in ever-increasing numbers, sir," added the thick-bodied Professor McPherson. "They are apparently centering their attack on our own country. This is probably explained by our vast extent of area, great stretches of level terrain and equable climate. It would seem, sir, that the appearance of this new space ship is merely coincidental to the general invasion, and not necessarily immediately menacing to us."

"We have established communication with the War Department, Norden," Dr. Sterns informed. "Washington is rushing guards here, equipped with gas masks, gas guns and poison gas. Our own air bases have been warned against a possible attack by our own aviators on us. If they move against us, we will all take refuge in this ship."

Lance nodded. "All right, Doctor. There's some food in this suitcase, in case you're hungry." He was taking out a bottle of milk and a packet of sandwiches from one of Lorna's grips as he spoke.

"You and Miss Lansing will find a well-stocked and equipped kitchen off the laboratory," Dr. Sterns answered over his shoulder as he turned back to his work.

Despite the anxiety gnawing at his vitals Lance grinned. Those men of the learned world hardly gave food a thought when absorbed in their pursuit of knowledge.

He found Lorna still watching the distant line of hills with the intensity of a hunting hawk. Her face was pale, the deep shadows under her eyes violet with weariness, but she welcomed him with a brave little smile.

"There isn't a sign of them—not yet," she murmured. "But I've got the feeling that eyes, terrible eyes, are watching and peering and searching for us."

"Well, they can't sneak upon us without our knowing all about it," he comforted with an assurance he was far from feeling. "The War Department is sending soldiers with gas weapons to guard us. And we won't be attacked by any of our own planes. I've brought some of the food you had in your suitcase. Dr. Sterns says there's plenty more in a room off the laboratory."

The frugal meal was quickly eaten. Slowly the afternoon dragged. But it brought neither sight nor sound of the brutes. The red sun gradually inched behind the western hills, and in the east the full moon began pushing a golden edge above a forested ridge. Twilight claimed the world, faded imperceptibly into the sable realm of night. Stars came out and the moon began its march across the sky. And to the weary watchers the shining satellite seemed like a malignant demon searching for them.

"Isn't it about time for those guards to come, Lance?" the girl murmured after a long silence.

"I SHOULD think so, Lorna girl. I suppose they are working toward us through the brush to avoid any possibility of being seen by those devils. Anyway, we can't stay here much longer. I know you must be cold and hungry—"

He broke off with a smothered exclamation. A dull glare was thrusting back the darkness beyond the distant hills. Rapidly it widened, and a sudden shift of the wind brought to his straining ears the faint din of savage yells.

"It's a fire, Lance," Lorna cried, and caught his arm with tense fingers. "And those howls. Lance, those fiends are burning some town!"

"Must be, Lorna. The devils! We may as well go down to the ship. We can't stay here—Look! There's another of those hellish ships. And not showing even the flicker of a light. They must be able to see in the dark."

The shadowy shape was drifting down like a wraith. Like a great bird of the night it seemed to skim along a dark height and swoop swiftly on its frantic prey. One moment it flashed menacingly in the bright moonlight, then was gone like a sigh of the dead.

"Come on, dear," Lance whispered and slipped an arm around the girl's quivering shoulders. "We've got to get out of here."

They slipped through the shadows to the ship, flitted inside. The space cruiser was dimly illuminated with the bluish radiance flowing from the green coils, and the five scientists were grouped close to the gently humming power-plant. Dr. Sterns turned his head as he heard Lance and Lorna enter the ship.

"My stars!" he exclaimed, "I'd forgotten all about you people. We've made some marvelous discoveries. Astounding discoveries. Much is still a sealed book to us, but the knowledge of Earth will be immeasurably enriched—"

"If you live to tell it, Doctor," Lance cut in bluntly. "Another of those hellish ships just passed over us. And the fiends are burning a town beyond those southern hills."

"Our new knowledge already bears fruit, sir," informed the portly Professor McPherson with stately dignity. "These gentlemen," indicating the three silent scientists with a bow, "have analyzed the composition sheathing this ship. The formula has been wirelessed throughout the world sir. Thousands of industrial plants are even now producing this peculiar composition. We shall protect our airplanes and guns and automobiles with it, sir. It absolutely neutralizes effects of those blasting rays, sir."

"Oh, Professor, that's wonderful," Lorna cried.

Dr. Sterns beamed upon her. "Also we have fathomed something of the mighty forces mastered by the invaders' scientists, Miss Lansing. And now we have discovered that they came from Jupiter. The difference in gravity is what gives them so much power on earth. It appears that the power operating this marvelous space ship is derived through gradual disintegration of atoms by means of a cosmic ray. The ray, which is either generated or captured from interstellar space by yonder apparatus, contains the mighty electrical energy of fully seven hundred million volts. They are using our moon as their base."

Lance flashed a quick glance to Lorna and moved to one of the series of narrow windows set into the side of the ship. His narrowed eyes studied starry heavens and shadowed terrain with quick, darting glances. The red glare of the flaming town lit up the sky luridly, flung weird shapes over hills and open country.

"We have also determined that the law of gravity has been neutralized by the marvelous science of the Jovians." The deep voice of the portly Professor McPherson. "As you know, gentlemen, the core of our earth is surmised to be a ball of nickel-iron roughly four thousand miles in diameter. It is thought that this core is covered by largely metallic iron of a thickness of about eight hundred miles, in turn surrounded by a mass of iron, magnesium and silicon having an approximate diameter of a thousand miles."

"That is generally understood, Professor," one of the other scientists nodded.

"We also know that the earth gives off powerful rays, ten to fifty times the wavelength of the deep red ray," continued McPherson sonorously. "These rays are invisible to us, but they cool off the earth and prevents the sun from establishing a boiling temperature on our surface. Magnetic rays. Doctor Sterns and I have determined that this ship is able to defy the law of the special magnetism we call gravity, because it is provided with a generator of positive electrical force."

"And ship and earth repel each other as the north poles of two magnets repel," a scientist commented.

"Exactly, Dr. Keppler. The simple opposition of two positive bodies. The power generated by the apparatus in this ship is a positive electromagnetic force. And instead of being attracted by the earth it is repelled by the earth. The positive magnetism flowing from the depths of the earth meeting the positive magnetism flowing from this ship overcomes the pull of gravity, gentlemen."

"Then the drag of gravity is resisted by this positive magnetic force to such an extent that this ship can be made a lighter-than-air cruiser of the heavens?" Lance queried.

"Is made lighter than the atmosphere, sir," Professor McPherson corrected. "And driven through the air at incredible speed by the power released through gradual disintegration of atoms by a cosmic ray. The same force

appears to be used in generation of this mighty flow of positive electromagnetism. This shell is so splendidly constructed that it is insulated against the absolute zero of space. Our conclusions, gentlemen, are, of course, subject to future corrections. We have not had the time nor opportunity—"

"There's another Jovian ship coming," Lorna cried thrillingly. "Floating right over these hills. Look! Look! They're spraying the rock and trees with that terrible lightning. Look!"

The startled scientists darted to the nearer windows. Trees and brush were bursting into flames. Lightning darted over crags and hillsides like leaping, twisting rivulets of lurid fire. The oaks spreading above the refuge were blazing fiercely. A few feet away a mass of rock and earth crashed down from a crag with a force that shook the ground.

"It would seem as though they may have picked up our wireless messages, Professor McPherson," observed Dr. Sterns quietly. "Or, it may be, they seek to destroy the laboratory . . . . They appear to be coming down, gentlemen."

"They are nosing down," cried Lance Norden. "See . . . They know we're here. They're coming out of the ship."

CHAPTER VI

The Green Death

FROM the space ship, glinting greyly through the shaded moonlight, huge Jovians were pouring. Each blocky figure carried a shield of shimmering metal and a ray-projector. And their eyes were phosphorescent as a wolf's in the dusk.

Lance flung himself to the pilot's seat in front of the green coils of the ship, pulled down the power lever. Instantly the blue electric waves pulsing from coil to coil fanned out into a dazzling flare of glorious radiance. A deep hum came from the driving mechanism.

Lance reached for the long starting-lever, paused with a little cry of wonder as he glanced sideways through a narrow window. The fearsome Jovians were dropping in their tracks like ripe corn mowed down by an invisible reaper. Dropping with hardly a convulsive shudder. And around them and their glinting ship was spreading a thin, greenish mist, which twisted and swirled weirdly in the silvery moonshine.

"Poison gas!" cried Dr. Sterns. "Our army strikes the invaders, gentlemen, strikes with weapons deadly as their own. See. Here come our own gallant lads."

Out of the gloom cast by crags, thick bush and bunched trees and into the moonlight moved many figures. Hideous gas masks covered their heads and faces, and each man bore a fearsome weapon. They approached the ship from which the little group of Earth people watched, and their leader beckoned for the sky cruiser to take to the air. Lance moved an answering hand, motioned for the soldiers to stand back.

"Don't touch a window or door," Dr. Sterns warned sharply. "The outside air is death. That greenish mist is probably composed largely of hydrocyanic gas."

"We're taking off, Doctor," Lance called, and pulled on the long starting lever.

If he hadn't been watching the bristling side of a rugged hill he might have thought the ship still hugged the earth. There was hardly a suggestion of the blinding speed as the ship zoomed above the hill and raced toward the star-studded zenith. Earth rushed away. And the lever had been moved barely an inch.

Lance shoved it forward, checked the flashing speed, turned the ship in a wide circle and began easing her down until he could make out the shadowy forms of the staring soldiers. Guided the great cruiser forward warily and circled till he caught the cautious signaling of a flashlight from a rocketing automobile. Then, brought the ship to earth with the lightness of a falling leaf.

The car had already slid to a halt. Three uniformed men sprang from the machine and raced over to the ship. Two others followed more slowly. Lance left his seat and joined the scientists as they opened a door and stepped out into the night. He noted that the faces of the officers were drawn and grim, and that several soldiers armed with gas guns were in the car.

"Dr. Sterns, I believe," clipped the foremost officer, a stout, grey-haired man with keen eyes. "I am Major Randall, sir. Of the—"

"Glad you're here, Major," Dr. Sterns cut in with a smile. "I have been expecting you. We received the wireless from Albany some two hours ago. It would seem, Major, that you and your men arrived here when you were most needed."

"We have been holding the hills and brush around your camp for an hour or more, Doctor," the stocky built officer explained crisply. "I knew we could not reach those devils with gas as long as they held their ships. We had to wait for them to come out. At that, I have never seen creatures die so fast."

"They require more oxygen than the people of our planet," stated the great scientist dryly. "That is evidenced by their enormous chest development. Breathing in more of the gas than would one of us in the same period of time, they would naturally feel its fatal effects more swiftly. I had that fact before me when I asked that gas be used against the invaders."

"It is being used against the enemy at every opportunity," the officer nodded. "We are, of course, handicapped by the fact that we must wait for them to come out of their ships."

"The composition used by the Jovian scientists to foil the ray has been analyzed by Dr. Keppler and Professors Allandyne and Grove, Major. We are already producing this peculiar metal and sheathing our guns and planes with it. Thus protected from the ray, we can attack them with explosive gas shells. We are going to destroy the enemy, Major, with their own devices and the products of our own science."

"I hope you're right, Doctor," exclaimed a tall man in the uniform of a captain of artillery. 'My God! this is terrible. The devils are hunting down our people like a terrier hunts rats. Killing and burning and enslaving. Offering human sacrifices. It's doubly—distilled hell!" He removed his cap, brushed back the damp hair from his forehead.

"There's thousands of them," muttered another officer. "And every hour brings fresh hordes. Doctor, we've got to exterminate the vermin, or we'll all be hiding in the brush like scared rabbits."

"We'll exterminate them, Captain—and drive their satellite back to its normal orbit. That ship over there, Major: We've got to convert it to our own use. We're going to equip those marvelous ships with our protected guns and shells, gentlemen, and sweep the foe from the sky and earth."

"I have ordered the ship taken to where it will be cleared of gas by this wind," Major Randall clipped.

LANCE turned and peered through the shifting moonlight. Made out blurred outlines of automobiles dragging a glinting shape over the ground, and dim shapes of soldiers. The greenish gas still twisted and

spiraled over the spot where the Jovian brutes had died.

Lance glanced up at the sky. The ruddy glare shed by the flaming town was fast widening, and through the distant billows of smoke long flanges of fire jumped and flickered like darting snakes from a world of flame. A shift of the howling wind brought a burst of fiendish yelling by the exulting horde!

"God help those poor souls!" muttered an officer. "Those hellions are worse than the Apaches ever dreamed of being."

"Oh, Lance, can't we do something?" Lorna pleaded. "We can't stay here and—and—"

"Come on," Lance gritted, and turned to the space ship. "We'll swoop down on 'em an' give 'em some of their own medicine. They don't know we've captured this ship; they'll think we're a bunch of their—"

"But they must know something, sir," exclaimed the cautious Professor McPherson sharply. "Why, otherwise, would they have attempted to attack us? They must have known we possessed this ship. It is not likely that they located only the laboratory."

"The more reason, then, why we should clean them out before they come after us," Lance answered coolly. "We can take a couple of gas guns aboard, and clean those beasts out before they realize what's happening. Remember, gentlemen, we're dealing with fiends, not humans as we know humans."

"You have that other ship, now, Dr. Sterns," Lorna added.

Hastily the scientists and officers consulted together. Then, Major Randall turned to the expectant Lance with a ghost of a grim smile.

"Mr. Norden, my orders are explicit; I am detailed here to guard this ship and these gentlemen. But, my orders say nothing of this other ship. Captain Riordan will take your place as pilot of this craft. I would recommend, sir, that you provide yourself with a gas mask. You will find one in that car."

"Thanks, Major," Lance grinned, and started for the automobile. One of the officers, the tall artillery captain, trotted by his side. They reached the car, and the officer gave a few terse orders. A grinning soldier stooped down, came up with a couple of gas masks. A white, rounded arm reached past Lance; slim fingers closed on one of the grotesque head-pieces. Lance glanced sideways, started as Lorna Lansing smiled into his eyes.

"For the love of Pete, girl!" the engineer cried sharply. "This isn't any place for you. Those brutes may be waiting for us, for all we know. Lorna, we can't have a girl—"

"Just try and stop me," she interrupted shortly, and proceeded to veil her loveliness with the hideous gas mask.

A chuckling soldier helped her adjust the device properly. The captain of artillery shrugged as Lance continued to protest. "Better save your breath, Norden," he advised tersely. "Time you're married as long as I've been, you'll know it's no use to argue with a woman when she's determined to do something."

Outside the ship Lance stopped for a last word of instruction to the others. "I'll ease the ship close to a bunch of those brutes," he explained, "and that'll give you boys the chance to cut loose with your gas guns. Stand right inside the doors, two or three of you. If they start to use their lightning-tubes, just sit tight. We're ruined if they can get at us with those rays."

"Remember, there's at least two of those ships down there," Lorna added. "Maybe more."

Quickly the ship was inspected. Doors and windows were closed and fastened. The dozen soldiers moved quietly to their posts. Five minutes and the great sky cruiser was slipping through the moonlit heavens like a hunting owl. Ahead and below stretched the blazing town, almost veiled by wind-tossed clouds of swirling smoke.

Lance eased the ship lower until he could see the white glare of arc lights in the streets shadowed from the leaping flames by trees and buildings. Here and there red and green signal lights flashed at intersections. Near the far end of the doomed town, resting on a small meadow and apparently deserted, three Jovian ships glinted greyly through the shifting firelight.

Lance nosed the ship nearer the billowing smoke, circled the town slowly. Many of the streets were choked with twisted wreckage of automobiles and trucks, blasted to tangled debris by the lightning-tubes of the Jovians. And here and there were shattered heaps of what had been homes and buildings, and tiny huddled shapes scattered over the broken pavement. Men and women and children struck down as they fled from the merciless invaders.

In a broad square, brightly illuminated by a row of blazing structures at the far end, scores of the Jovians pranced and gamboled like grotesque, blocky apes, brandished golden arms above shaggy mops of copper-colored hair. Dozens of the huge brutes lined one side of the square and tossed to each other shrieking, writhing Earth men and women.

And as each white body hurtled through the air it was the target for long knives flung by the savage Jovians. The front of a building crashed into the square with a wide burst of fire and rain of sparks and cinders. A Jovian howled fiendishly, raised a white form high above its head and flung it into the blazing debris. Frenzied yells burst from the grisly throng.

"Creeping Judas!" gasped a staring soldier.

"There's a group of prisoners under those trees, Norden," Captain Ferris grated. "We've got to save them."

Lance glanced through the narrow window at his left. Beneath a row of leafless trees in a short street leading from the square were ranged scores of men and women. Their hands were tied together and trussed up above their heads to the overhanging limbs. And scattered over the firelit pavement were stark forms of adults and the pitiful little bodies of slaughtered children.

A BURST of wild yelling jerked the eyes of Lance and his companions back to the square. Some of the copper-haired creatures had sighted the ship. They flung yellowish arms high, bounded around like hellish apes, beckoned the watchers to come down and join them.

Lance Norden's mouth set grimly, and into his grey eyes crept cold lights of killing rage. "Those devils think we're their kind." His steady voice had a curiously soft, deadly ring. "We can't save the poor souls they're playing with; but we can send those devils to hell. All set, everybody. I'm going down."

The ship drifted down like a shadow. Down until the tense watchers could see the phosphorescent eyes of the golden brutes. Captain Ferris barked an order. Three soldiers shot open the nearer doors of the ship; the men with the gas guns rippled into deadly action. Too late the watching Jovians saw and understood.

For as they clutched frenziedly at the death tubes in their girdles, the greenish gas gripped them. Like rotten fruit plucked by the blasts of October they dropped where they stood. Some just beyond the first gush of the greenish death flicked at their tubes, but Lance tilted the ship in time to escape the blasting rays.

And the gas wrapped them in folds of death, hovered over them like a pall spewed from hell's mocking depths.

From the darkling depths of the distant valley lurid lightning flashed and flickered intermittently through the gray dawn. It stabbed the cloud-hung heavens, lashed out across the dim terrain, flung back the crowding shadows.

Lance Norden glanced from the awesome spectacle to the group of silent men in the space ship. "They're down there, thousands of them. Waiting for the sun. And guarding their camp with those hellish rays."

Dr. Sterns lowered his powerful binoculars, nodded gravely. "They have seized those limestone quarries. Burrowed into the earth like rodents. Mindful of their own nights of terrible cold, they have not yet become accustomed to our own mild temperatures. The wide area covered by those electric rays, gentlemen, would indicate the Jovians hold that valley with a strong force."

Three days had passed since Lance Norden and his companions had destroyed the Jovians with poison gas in the flaming town. Three days of dread and lightning-barbed death for the reeling Earth, while the fiends raged like exulting devils spewed from Hell's foulest abyss. Days of horror and torture and slaughter, with the stricken Earth people feverishly preparing for the last stand against the invaders.

Lance picked up his field glasses, looked long and steadily at the lightning-guarded valley. He saw blurred shapes, many shimmering space ships. A few hundred yards from the camp lay the tangled wreckage of a locomotive and long train of steel passenger cars. And in the far distance a reddish glow told of another city blasted by the blocky devils.

Lance laid down the glasses, peered through the narrow windows of the ship. In the cold light of the gray dawn he could see space cruisers which had been captured from the invaders, and a swarm of glinting airplanes. All were sheathed with the mysterious metal the Jovians had brought to Earth—the strange substance which defied the ray projectors. Guns and shells were coated with the composition, and the aviators wore garments fashioned from the metal. Each man had a gas mask.

"The next few hours will tell whether the Earth people are to hold their birthright, or are destined to become cringing slaves of those creatures," Dr. Sterns said softly. "We have done all man can do. If they can destroy this metal, gentlemen," tapping the ship's silvery wall with long, sensitive fingers, "we are lost. But I am hopeful—I am very hopeful—our science will prevail."

"This glass, Doctor?" An officer indicated one of the narrow windows of the space ship.

"That substance is not glass, Captain Lester, but a practically unbreakable crystal. It is totally impervious to the ray."

"The tides were higher last night, Doctor," another officer muttered. "Even if we can wipe out those devils down there, how are we going to drive the moon back?"

"The moon was at perigee last night," the great scientist explained. "It is unlikely it will be forced closer from its normal orbit. Their scientists dare not venture it too close. You heard their threats last night, gentlemen. Their warnings that further resistance by us would mean annihilation. Their threat to hunt down and slay by lingering torture all Earth creatures failing to voluntarily surrender. They know we have killed many of their kind and destroyed some of their ships. There is a flaw in their armor, gentlemen. They are not invincible."

"There is movement down in that hell-hole," cried Lance, peering through his glasses. "They're coming out of their burrows, hordes of them."

"We must attack, before they scatter," barked a tall grey-haired man with the silver eagles of a colonel on his uniform. "Signal the charge, Captain Lester . . . All right, Lieutenant."

LIEUTENANT LANCE NORDEN turned to the controls, started the great ship. Smiled, a bit grimly, as Lorna pushed into the seat beside his. The girl had insisted on remaining with the ship to the last. Lance thrilled with the pressure of her shoulder against his.

Then they were racing through the cloud-hung heavens. Straight for the gray valley and the Jovian horde they rocketed, through the flickering lightning. Lance glanced at the newly-installed tachometer; they were shooting through the air at a speed of four hundred miles an hour.

Livid lightning was sheeting the crystal windows of the space ship, darting and twisting over and around the veritable cloud of accompanying cruisers and planes. And answering bursts of yellowish flame were lashing out from the ships and planes manned by the Earthmen. The guns protected by the strange silvery metal, were pumping gas shells into the ships and camp of the Jovians.

Lance dived his ship as a cruiser hurtled toward him. He could see shells plowing through the silvery hull of the enemy, as the men manning the guns a few feet from him went into action. The Jovian ship fluttered down, clouds of the greenish poison gas pouring from its shattered sides. Another cruiser rocketed upward from the ground, struck and crumpled a plane before it began to drift downward. Far below him Lance could see blocky golden shapes sinking down as the deadly gas clutched and throttled them.

"They're trying to ram us," Dr. Sterns cried. "That's how they fight. Smash in the side of a ship with those heavy prows and burn everything to a crisp with those rays. There goes another plane. They're too fast for our planes, gentlemen."

"Captain Lester, signal our planes to scatter out and keep away from those damned ships," Colonel Tracy rasped. "They're smaller and can turn faster. Tell 'em to keep away and use their guns."

The signal was flashed. Another plane went down with a flare of flame. Jovian ships were fluttering down like horrible birds from a hideous world, with clouds of the greenish gas enveloping them.

Lance avoided a rocketing ship by a steep bank, saw its shimmering side literally split open as shells ripped into it. He joined in the yell of triumph from the gunners as they watched the strange craft flutter down and past them.

"It works, gentlemen, the metal works," Dr. Sterns cried thrillingly. "Those devils can't destroy it with those rays. See, they're losing heart. They're trying to get away."

Lance glanced through the front window. Two of the huge Jovian ships were rocketing through the clouds. One was caught by a burst of shellfire from a plane, hiding above a cloud. It pitched sharply, began floating groundward. The other was already a shimmering speck in the glowing radiance of the rising sun.

Lance nosed lower to the wide-flung camp of the invaders. Caught a group of the running brutes with a burst of forked lightning as he discharged one of the electric tubes in the ship. Then the camp was blotted out by the swirling pall of greenish death.

From the corner of an eye Lance glimpsed two enemy ships hurtling down like comets. He zoomed into the sky, grinned wolfishly as he saw one of the attacking cruisers crumple under the rain of shells poured into it by his gunners. The other came so close that for a moment a crash seemed certain, then Lance felt the slithering shape rub past. He pulled his ship around in a steep bank, drove his

prow into the other's shredding side, blasted the frenzied brutes inside with a quick play of the great lightning-tube.

Lance chortled savage glee as the blocky, green-eyed, coppery-haired creatures sagged down like grotesque images toppled by a mighty wind. He felt as a man feels when he stamps loathsome vermin into the gray dust. But Lorna veiled her eyes with shaking hands and long shudders rocked her body. Wild yells of delight broke from the watching soldiers as the Jovian ship lurched queerly and slid sideways.

Another of the lightning-spitting shapes swept past, to be caught and blasted to shreds by vengeful shellfire. Another ship floated slowly earthward with the greenish fumes of death swirling around it.

Lance pulled the space ship around in a wide circle, zoomed above the sun-tipped clouds, scouted the blue heavens with danger-keened eyes. Three planes swooped on a Jovian cruiser as it shot through a cloud-bank, poured gas shells into its shredding hull.

An Earth-manned ship was blasting two fleeing Jovians to bits with merciless gunfire. And here and there silvery shapes were rocketing toward the azure zenith, fleeing from Earth like weird birds chased by hellish hunters. One was caught by a stream of shells from a pursuing ship. It rolled and pitched drunkenly in the roaring wind, fluttered down in a greenish gas mist.

"We win, gentlemen! We win!" Dr. Sterns exulted and slapped his thigh resoundingly. "They are racing for their lairs with the fear of death riding them."

"But they'll be back with fresh hordes," an officer groaned. "If only we could have exterminated them!"

"Come back!" cried Dr. Sterns. "With the dread of death gnawing their vitals? Never, Captain. Not unless they discover what we're using against them, and can foil it. For all their strange power they are abysmally primitive. Savages who have stumbled upon some of Nature's mighty secrets. When those who escape tell their fellows of the terrible mist loosed against them—the green mist of death—"

"Oh, Doctor," Lorna exclaimed impulsively, "you say they have their base on the moon. If we only could send that dreadful gas to the moon. In one of their own ships!"

"Eh! My Stars!" The great scientist was regarding the girl's flushed face as though she was the daughter of another world. "Send the gas to the brutes. Why, of course, we can. Fill one of their ships with gas bombs and shells timed to explode when a door or window is opened. Place a robot at the controls. And send it to the satellite!" His deep-set gray eyes glowed with triumph.

"But, will that drive the moon back to its normal orbit, Doctor?" Lance queried. "If those devils can keep on dragging the ocean over our coasts—"

"If it doesn't my boy, we'll find other means," Dr. Sterns assured. "The Jovian scientists are using some electromagnetic force to attract the satellite to the Earth. With what we have already learned of their control of magnetism, coupled with the immensely greater density, size and magnetic power of our planet, I have no doubt but what we shall find means of forcing the moon back to its proper orbit."

Lance nodded, eased the ship down through the scudding clouds. Dense clouds of the greenish gas wrapped the camp of the Jovians in the silent mantle of death. Now and then the strong wind whirled aside the horrible fog for a brief instant, disclosing myriads of shimmering space ships on the valley floor.

"We must strike at the other camps of those fiends before they learn of what has happened here, and escape," Colonel Tracy clipped. "They are doubtless up to their devil's work elsewhere."

Signals flashed from the ship. The swarm of space ships and planes leveled off, raced for the spreading glare of a burning city. Lance gave a sudden exclamation, pointed. Far away silvery shapes were flashing through the sunlit heavens, speeding from the Earth as though chased by a pestilence.

Dr. Sterns watched the rocketing ships for a long moment. "They have been warned, gentlemen. Probably by radio from the ships escaping our attack. It will not be long now, gentlemen, before our planet will be delivered of those brutes. And they will never return."

"Too bad we couldn't have wiped them all out," Lance grumbled.

"We can still strike them," cried the scientist. "We'll send them a dozen of their own ships, laden with the death gas. It's bound to kill some of them. It is very probable the scientists will lose no time in removing their base from such a dangerous neighbor as the Earth. But we must send the dread of hideous death to them. We owe them that much, gentlemen, for all the death and destruction they brought to us."

* * * *

The sunset's glory laved the majestic Adirondacks in crimson and gold. In Dr. Sterns' underground laboratory a group of grave-faced scientists and military men clustered near the radio. Lance Norden caught one of Lorna's soft hands in his, drew her closer.

"Good news!" It boomed out triumphantly from the radio. "The tides are falling all along our seacoasts, slowly, steadily . . . Professor Ellerson of Lick Observatory announces the moon has receded from the Earth approximately three thousand miles. The satellite is retreating steadily . . . Radio threats broadcasted from the Moon have entirely ceased . . . The last camp of the Jovians, in an isolated area in the northern Missouri valley, has been annihilated by poison gas . . . The tides are still falling . . . The world is saved!"

THE END

ON PAGE 436

will be found an announcement of interest to all readers of science fiction.

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THE READER SPEAKS

In WONDER STORIES QUARTERLY only letters that refer to stories published in the QUARTERLY will be printed.

The Oppressed and the Oppressors

Editor, WONDER STORIES QUARTERLY:

I would like to comment upon the excellent Winter 1932 QUARTERLY.

Mr. Pratt's "Onslaught From Rigel" is a wonderful yarn, worthy of praise. It shows cleverly, how those astounding ingenious creatures from outer space, who were able to make use of the winged creatures and to outwit the schemes of their opponents, were at last defeated by the Earthmen. Had the men from Rigel been able to gain the safety of space, without such tremendous losses, they would undoubtedly have contrived devices so as to render the artificial lightning of the Earthmen useless.

But if the "yellow beam" in the Lassan headquarters was so accurate while Sherman was prisoner, why was it not so at the time of the rescue of Marta Lama?

Next "The Moon Destroyers." Was it not quite unsafe to let boulders from the Moon drift about loosely in space?

"The Revolt of the Star Men" was a story of the first class. Raymond Gallun is a "fact" author.

Now "The Metal Moon" brings out wonderfully the clash between the oppressed and the oppressors; an idea worthy of the manner in which it was written. Excellent. "Spacewrecked on Venus" in the mighty dramatic style of Jones smacks of law and order; and was magically fascinating.

And "The Martian"! This is a story well felt by most readers. It is original, plain and mighty. Compliments to Messrs. Glasser and Hillard.

This being the first time I have ever written, Mr. Editor, I do not know whether to restrain my hand in giving out praise. But I can quite truthfully say that though the previous issues of WONDER STORIES QUARTERLY were wonderful, the Winter 1932 was super-wonderful.

Virgil C. A. Parnoff,
Stratford, Conn.

(Mr. Parnoff had better write us again and ease our curiosity as to the meaning of some of his terms. Tell us, what does a "fact author" mean. And what is "super-wonderful"?

As we understood it, in "The Moon Destroyers," there would have been no boulders floating about in space. They would have been all dissolved into cosmic dust to fill the great vacuum of space.—*Editor*)

More Like Robots

Editor, WONDER STORIES QUARTERLY:

I suppose you will soon be tired of receiving so many letters from me, in regard to so many different matters. But I am becoming more and more of a science fiction enthusiast. I do not particularly care whether my letters are printed or not; but I will have to admit that I do get a thrill out of seeing them in the old magazine.

Your Winter 1932 QUARTERLY was superb. Either you are continually improving or I am becoming so intensely

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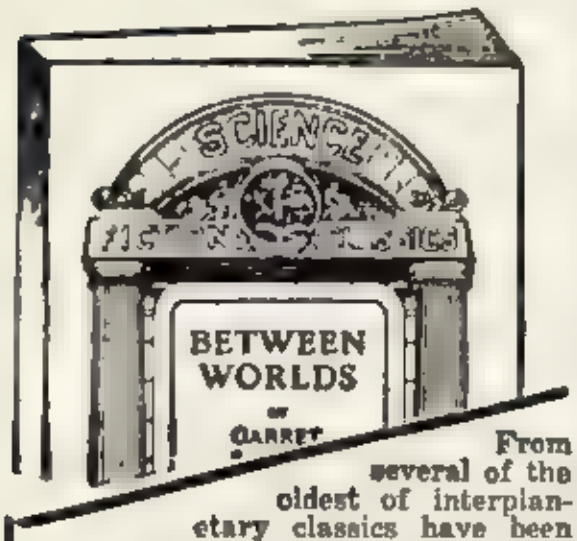

From several of the oldest of interplanetary classics have been selected numerous stories which for many years have been out of print. So that readers of WONDER STORIES QUARTERLY may enjoy the privilege of reading these interesting and educational stories at a very small cost, a few of the best are being reprinted in book form—the first of which is BETWEEN WORLDS by Garret Smith. This book is printed on an excellent grade of paper, stiff covers and is of standard book size—nearly 100 pages.

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THE READER SPEAKS

interested that I like all of the authors' efforts.

I enjoyed the "Onslaught From Rigel" immensely; but I want to ask about one thing. I do not understand just what change took place as a result of the action of the comet. It seems to me that if a body were to undergo a great change, the result would be different. In the illustration on page 185 Paul has the Earth beings pictured very closely, but their muscles seem to be circular instead of the long fibers which run from the elbow to the shoulder.

The shoulder and back muscles also seem more like long plates; and the knee and ankle joints seem very mechanical. They seem more like robots, than mechanized humans.

But nevertheless I enjoyed the story immensely. Let's have more from the pen of Fletcher Pratt.

"The Moon Destroyers" by Ruch was also a good yarn. But I cannot figure out how, if the *San Francisco* was destroyed, there were three ships left to destroy the moon; unless the *Silver Death* was used. And as I understood the story supplies were transferred to the remaining ships *Ganymede* and *Los Angeles*.

"The Revolt of the Star Men" by Gallun was new and original in its scope but what I cannot understand is how the space men would have such enormously developed muscles if they were not developed on some planet with an enormous gravitational force.

Smith and Starzl surely possess imagination plus to conceive of an artificial satellite containing a pleasure city. Team these two again in the future.

F. M. King,
Shenandoah, Iowa.

(We cannot resist giving Mr. King the thrill of seeing his letter in print. His appeal was too eloquent. In "The Onslaught From Rigel" Paul was trying to picture the Earthlings as mechanized men, yet to show in some way how they could walk about and function. His task was a difficult one, and it is natural that there should have been some questioning as to the details. —*Editor*)

Thankful

Editor, WONDER STORIES QUARTERLY:

The Spring issue of our magazine gave me a good day's enjoyment.

The novel "The Vanguard to Neptune," I consider the best story in the issue. I hope that it appears in book form as did "Vandals of the Void." I am sending to England for the latter book.

I enjoyed immensely the other stories in the magazine.

I am thankful that Paul illustrates *all* of the stories.

How about more full page pictures in the novels?

Jack Darrow,
Chicago, Illinois.

(We have no direct knowledge as to whether "The Vanguard to Neptune" will appear in book form. But as soon as we have some word on this from Mr. Walsh or his American agents we will notify our readers.—*Editor*)

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See Page 436

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THE READER SPEAKS

(*Continued from Page 573*)

Screws and Nuts and Bolts

Editor, WONDER STORIES QUARTERLY:

The Winter '32 QUARTERLY really is an all Interplanetary issue—and I like it! "The Onslaught from Rigel" and "The Martian" were the least like interplanetary tales but, strangely, I liked them the most.

If all the '32 feature yarns in the QUARTERLY are going to be like Mr. Pratt's well! . . . The only thing I couldn't understand in it was how the comet—or whatever did it— devised nuts, screws, bolts and other things for the men it changed into mechanical creatures. Why should it do anything but make the bodies, just as they were, into metal? Comets can't think. Not being a crank this mistake didn't spoil the story for me at all. But I just mentioned it to see if the author had any explanation.

Raymond Gallun seems stuck on the idea of creatures being able to live without oxygen . . . and in a vacuum . . . and in zero temperatures. Well, don't think I'm finding fault. I like such stories of his. His latest wasn't quite as good as "The Space Dwellers" but still . . . .

Congratulations to Paul for his excellent art decorations.

Forrest J. Ackerman,
San Francisco, California

(It is sometimes hard to explain the vagaries of comets; and what they will do to us poor human beings. Mr. Pratt has taken refuge in Paris, from the numerous inquiries concerning his story, and we believe he will not return until "it's over, over there." However, he is using his time to good advantage for us, by translating from the French the marvelous novel "The Death of Iron." This will be published in forthcoming issues of WONDER STORIES.—*Editor*)

They Would Have Thumbs

Editor, WONDER STORIES QUARTERLY:

The last time I wrote to you was in the Summer 1931 edition. Again you receive a letter from me concerning the "Vandals of the Void." Couldn't we have a sequel?

It seems in the Summer 1931 issue you went in for trick endings. This was shown by "The Man From Mars." "The Great Invasion" was a laugh; another trick ending.

Ask Mr. C. A. Smith if we couldn't have further adventures of the *Alcyone*?

In the Fall 1931 issue I disliked "The Cosmic Cloud." I couldn't even get into it. The "Asteroid of Death" was immense, I mean grand.

I would like to mention several of my bright ideas concerning the "Manbeast of Toree." Couldn't Ralph T. Jones give a sort of sequel to that by applying the Mendelian Law. Mr. Jones went to unnecessary pains to tell that Tomman impregnated many females in his travels on that planet. Tomman also escaped, probably impregnating several females during his freedom. Mr. Jones also stated that the reason man did not become the dominant animal on that planet was because of the lack of thumbs. Well, Tomman's descendents,

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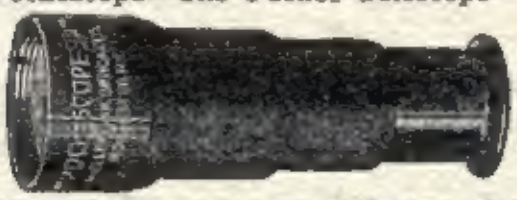

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THE READER SPEAKS

at least one of every four, would have thumbs. *Savve.* I don't necessarily want man to wipe out the Imbos but couldn't they possibly set up a civilization beside that of the Imbos? Ask Mr. Jones to write a sequel, will you?

In the "Struggle for Pallas" (the sequel to "Vandals of the Void") how did these "Cohorts of the Damned" manage to reproduce so fast? It says a half-dozen eggs were found. Less than a year later there are God knows how many. Rather irregular, wasn't it?

Outside of "The Cosmic Cloud" I thought the rest of the issue swell.

I hadn't seen any stories by Fletcher Pratt for a long time. I certainly was glad to see "The Onslaught from Rigel." In spite of his using the old theme of Earth's invasion by another and greater system, planet or what have you and of Terra's gallant fight to repel them, I liked the story because it contained a great many new ideas, such as man being changed to metal by some unknown process.

"The Revolt of the Starmen," a new idea entirely (at least to me). I have read several things about life existing in space, but this is the first time I have read a story of which this was the theme.

"The Martian" was "swell." I certainly would have liked to seen the 'little feller' get back to Mars safely. Hilliard wrote such an excellent story with the idea furnished by Glasser that my heart was wrung dry of sympathy. I liked the majority of the plot contest stories. But the Winter issue has been the best for almost a year now, since the Winter 1931.

Why do you (a note of complaint) go in for interplanetary stories entirely? I would like to see other stories in here. A mixture of time traveling, dimensional traveling, and interplanetary traveling.

James McCrae,
Philadelphia, Pa.

(Our correspondent offers an original idea regarding the new race that might arise on Toree. We shall transmit this to Mr. Jones. We believe that the generation that will arise as the result of our Terrestrial's visit to Toree, will have not only thumbs, but also the courage and will of their Terrestrial forbear. That should certainly provide some interesting complications.—*Editor*)

These All-Powerful Rays

Editor, WONDER STORIES QUARTERLY:

I first began to read WONDER STORIES several years ago. At that time the stories were pretty soundly scientific and I noticed that a slip on the writer's part was quickly and intelligently criticized in your columns. Being an engineer, I admired the technical correctness of most of your stuff, especially stories dealing with pioneer ventures into space. You spoke the language of reality then.

I suppose there is much competition in the science fiction field. At any rate the writers seem literally vie with one another in the conception of mon-

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THE READER SPEAKS

(*Continued from Page 575*)

strosities. Most of them have far exceeded the bounds of scientific explanation and some have exceeded the bounds of reason. I cite the "Onslaught From Rigel" in which living humans evolve into jointed metal machines requiring oil and an electric charge to run; but retaining their own mentality.

The most abused instrument in the realm of science fiction is the "ray." The introduction of these all-powerful rays into a story kills the interest immediately, for it excludes the possibility of any really interesting situations. Whether it be the "sleep producing ray," the terrible "disintegrating ray" the "magnetic ray" the "paralyzing ray," these purely imaginary forces present easy solutions to any and every problem. And the resulting galaxy of monstrous events would put to shame a madman's dream.

I notice that few technical points are discussed any more in the reader's column. It is very uninteresting to read some layman's list of stories he liked or did not like. Please, Mr. Editor, give us something to stand on. There is a fine but definite line beyond which science fiction cannot go without becoming fairy tales. This rapid evolution of soundly based science stories into weird, confused, extravagant nightmares makes me feel as though I were losing a friend.

"The Martian" by Glasser and Hilliard is one of the finest and most cleverly presented short stories I have ever read.

George W. Race
Albany, New York

(We confess that we have been carrying on a campaign against these very things that Mr. Race so soundly complains of. The difficulty has been that a new element entered the field of science fiction, magazines of "wild west fiction" in which science was of little or no consequence. This threw many good writers off their balance and destroyed in some their ability to create a good story without the use of rays, and rays and rays.

We still hope to convince authors that the use of a ray does not take the place of a scientific idea. And while this work is being carried on we ask Mr. Race to be patient. Science fiction is going through a state of evolution. We know it will emerge strengthened considerably.—*Editor*)

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912.

Of Wonder Stories Quarterly published 4 times a year at Mt. Morris, Ill., for April 1, 1932.

State of New York } ss.
County of New York }

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Irving Manheimer, who, having been duly sworn according to law, deposes and says that he is the Business manager of the Wonder Stories Quarterly and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation) etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Stellar Publishing Co., 404 No. Wesley Ave., Mt. Morris, Ill.; Editor, Hugo Gernsback, 98 Park Place, New York; Managing Editor, David Lasser, 98 Park Place, New York; Business Managers, Irving Manheimer, 98 Park Place, New York.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.) Stellar Publishing Corp., 404 No. Wesley Ave., Mt. Morris, Ill.; Hugo Gernsback, 98 Park Place, New York; Sidney Gernsback, 98 Park Place, New York; S. Manheimer, 98 Park Place, New York.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

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